The Builder.

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The Representation of Architecture at the Royal Academy: concluded.

LAST week we commented briefly on this subject, giving quotations from some letters which we have received from various architects in regard to it. On another page in the present issue will be found extracts from a number of other letters which we have received. They present a curious medley of varying opinions, the one point on which the writers seem to be practically unanimous being the unsatisfactory nature of the architectural exhibition as at present arranged.

Several of our correspondents touch on the question "for whom are the architectural drawings exhibited?" and those who do so in most cases intimate that the exhibition is for the public and not for architects; that therefore the form of architectural illustration should be that which the public can best comprehend; and that this means, almost necessarily, either perspective drawings or photographs. We are unable to agree with either element of this conclusion. We consider that the architectural drawings are, or should be, both for architects and the public; but, so far from considering that therefore drawings should be admitted which may interest the public but which are of no value to architects, we hold that the public should learn to understand the class of architectural drawings which are of interest to architects, and that no others are worth hanging. It seems to be argued by some of our correspondents that the Royal Academy Exhibition generally is mainly arranged and got up with a view to popularity, and though we fear there is too much truth in this, we certainly do not believe that it is altogether true; and if it were, the conclusion would only be that the Royal Academy was not doing its duty to art. It is the business of an Academy of Arts to lead public taste, not to follow it; and if it were proved ever so much that this were not the case in regard to the bulk of the annual exhibitions, that is nothing to the argument. As far as the Architectural Room is concerned, as one of our correspondents trenchantly puts it, it is the duty of the Academy to decide what is good architectural design, and to give the preference to it in the hanging. To this point we will return.

In the meantime there is the question, what are the kind of drawings which have the best chance for exhibition at the Royal Academy? Our correspondents offer us almost every possible opinion on this point. Several of them strongly support photographs of buildings, as being, in their opinion, the only manner in which architectural design can be truthfully and completely represented except by the actual building itself. This view is supported by some of those who regard it as a main object of the exhibition to interest the public. In that case we hold that they are quite at sea. We believe that a room full of photographs of buildings would be more dull and uninteresting in the eyes of the general public than the Architectural Room at the Academy has ever been yet. Others consider that perspective views are best understood by the public, but as we maintain strongly that the exhibition is not to be arranged according to the taste, or ignorance (of architecture) of the general public, we need not concern ourselves with that argument. Others take a middle course, and say that, while regarding geometrical drawings as exceedingly important, they by no means wish to discourage perspective drawings, as long as they are accompanied by plans. The question of models is touched upon by several correspondents, two or three of whom, we observe, express dissatisfaction with them as being too like toys.

Out of all this collection of varying opinions, many of which are accompanied by remarks and criticisms of much point and interest, we cannot say that we have any difficulty in coming to our own conclusions, or that our previous convictions have been much modified by the result of the correspondence, though we must thank some of our correspondents for valuable hints and for calling attention to neglected points, and all of them for taking the trouble to record their opinions, which we have no doubt will be of interest to many of our readers. We are glad also to find our own convictions on the subject receiving strong support in some of the letters with which we have been favoured.

Our own opinion is strongly in favour of geometrical drawings exhibiting the whole construction and detail of a design, for the precise reason, which several of our correspondents dwell upon, that architectural exhibits stand on a different footing from all the other contents of the annual exhibitions, in the fact that they are not the actual work but a representation of it. We are not concerned with the building but with the design for it. Therefore the drawings should be such as to have interest as exhibiting and explaining the intended design, in its essential qualities, not in its mere pictorial result. A set of drawings showing the development of the design shows what is in itself a reality, not a mere representation. As Mr. Pite pointed out in his admirable letter printed last week, the geometrical drawings may really exhibit and explain the design, the thought in the architect's mind, more thoroughly than even the executed building can always be trusted to exhibit it. The letters both of Mr. Pite and Mr. Baggallay bring out this point very well, and should be read together. It is only as subsidiary to the geometrical drawings and further explaining them that perspectives and photographs are of much value. Plan is an essential element in architectural design, not a mere condition of it. The pictures of buildings, as Mr. Baggallay puts it, enter into an absurd competition with the pictorial contents of the other rooms, and are naturally compared with them and found much less interesting. But, regard the drawing not as an end in itself, but merely as a means of showing the architect's intention, and they come into quite a different category. They are not an end but a means, and should be so regarded. The perspective or the photograph are useful additions in making the meaning more clear or (in the case of the photograph) in giving a realistic representation of the result. The objection to making photographs the main element in the exhibition, as some of our correspondents recommend, lies not only in the fact that photographs are inherently dull objects in an exhibition, showing a dead black and white effect instead of the colour of the building, but (as Mr. Campbell Douglas points out) they can only show a building which has been actually executed and finished. Now designs for buildings which have not yet been carried out may be of just the same value and interest, *quâ* design, as those which are completed. Pugin said an architect was an unfortunate person who was always imagining great things and

executing little ones—not because he could not execute the great ones, but because he was so rarely allowed the opportunity. Surely then the Architectural Room at the Royal Academy is just the place where he might be allowed the opportunity at least to show a grand architectural conception, even if there were little chance of its being carried out. In regard to models, those of our correspondents who touch on the subject show a very decided difference of opinion. Two of them regard models as rather like toys; two take an exactly opposite view. Mr. Prior, whose own model is one of the best points in this year's exhibition, thinks that all architectural exhibits should be either models made by the architect's own hand, to be ranked with sculptor's work, or artistic drawings by his own hand which can be ranked with the other pictures of the exhibition. But this view entirely ignores the fact, already insisted on, that architectural exhibits stand on a different level from other exhibits, in that they are not the real work but only a representation of it. No picture of a mere building can be equally interesting, as a picture, with a figure picture or a landscape; and even the model is after all not the building, but a miniature representation of it, and one which, owing to difference of scale, often conveys a very inadequate idea of it. Hence we are rather disposed to sympathise with those of our correspondents who regard models of a whole building as toys; and though we consider that it would be a great improvement to give more scope to the exhibition of models, we do not know whether in fact models of portions of buildings, showing the actual facts of detail to a tolerably large scale, would not be of more interest than miniature models of whole buildings.

As to what should be the quality and style of the geometrical drawings, there is also much difference of opinion. Mr. C. J. Tait considers that these need not be by the architect's own hand—they are only diagrams of the design—unless he thinks that he can do them better than he can get anyone else to do them for him. We are by no means disposed to regard the matter in this light. Drawing is *not* design; but architectural drawing, as a means of exhibiting either a design for a building which has not been carried out, or of a building which is not within reach, is a form of art in itself, quite distinct from pictorial art, and one which we would not willingly let die. Careful and finished geometrical drawing leads at least to thinking out every portion of a design, and therefore has its value to the architect himself as well as to those who wish to study his design apart from the building.

As to what ought to be illustrated in the Architectural Room we have a number of suggestions from our correspondents. Mr. Jackson thinks the main object should be to illustrate the year's work in architecture that has been actually carried out. This should be one object, but not the only one; otherwise we are left in this predicament—that a very poor building which has been carried out may be illustrated, and a much better one that has not been carried out may be passed over.* That would hardly be for the advancement of architectural design. We agree with those of our correspondents who think that drawings of ancient architecture have no proper place among the architectural exhibits, as long at least as the space allotted to them is so limited; nor the small drawings of what may be called "shop" designs by firms of stained glass manufacturers. In these latter there is, in fact, no interest whatever. Stained glass ought to be exhibited at the Academy in its actual make, not in drawings; unless, as one correspondent suggests, we had the cartoons. But here again the question of space comes in.

* On this point, like some others of our correspondents on other points, Mr. Jackson's practice does not quite agree with his words, inasmuch as his own principal exhibit in the present exhibition is a large drawing of a design which is not going to be carried out.

As to the complaints of want of principle in the selection, we are entirely in sympathy with our correspondents. It is impossible to guess upon what, if any, principle, the contents of the Architectural Room are selected. It appears to go mainly and in general by mere drawing, and one of our correspondents suggests that the object of the Hanging Committee is merely to select the drawings which will best satisfy their standard of pictorial effect. But this can hardly explain the matter entirely, since we have seen two drawings this year which were turned out, one executed by perhaps the first sketcher in black and white of the day, the other by admittedly the first water-colour artist in architectural subjects of the day. Both represented good architectural designs, and if our readers could compare these with some of those that are hung, they would easily perceive that artistic drawing could hardly be the standard. Possibly it is chance, or the size of the frames, that settles it. At all events, there is abundant excuse for all the hard things that are said in some of our correspondents' letters as to the selection, and every reason to demand that some better means of selection should be found. Two or three of our correspondents suggest that a jury of architects should be invited to assist the painter academicians in adjudicating on the architectural drawings. We think this would be an excellent method, but we feel certain that the Academy would never assent to it. Only, if they do not, they should at least select someone on the hanging committee who knows something of architecture, and give him the principal voice in the selection.

It is probably owing to the favour shown to mere drawing and to showy perspectives that there is such a prevalence of the vicious system of employing professional draughtsmen, and drawing by proxy, so that we see the absurd result of the same hand and style in drawings bearing five or six different names. So much has this proxy-drawing became a recognised practice that an architect who always makes his own drawings, and had one of them hung on the line, was greeted by another with the complimentary remark—"That is a charming elevation; who drew it for you?" If the system of giving more prominence to plans and geometrical drawings once obtained, no doubt some fashionable perspective draughtsmen would lose much of their means of existence; but then, to borrow Lord Sherbrooke's famous phrase—"Why should they exist?"

One important practical point is touched upon by several of our correspondents; viz., that the restrictions as to frames, &c., should be abandoned in regard to the Architectural Room. The Academy apply the same restrictions indiscriminately to water-colours and architectural drawings, which is only another part of the general misapprehension of the subject, architectural drawings being made with a different object from water-colour drawings in the ordinary sense. The demand of our correspondents is that unframed strainers should be admitted, as at the Salon, and (as several of them put it) that architects should be allowed a free choice as to the manner in which they think their designs can be best illustrated, whether by geometrical drawings, perspectives, or photographs. Architects know best how they can illustrate their designs, and painters are really no judges on such a point, the drawings being made for an entirely different purpose from the works which painters execute.

The demand for fuller illustration of designs by geometrical drawings, of course touches at once on the question of space. Two or three only of our correspondents profess themselves satisfied with the space now given, and they are persons who take a rather pessimistic view of the whole subject, and think there can never be much interest in the Architectural Room at the best. The suggestion which is made by one or two of our correspondents, that the architectural drawings should be distributed through the centre portion of the various picture galleries, is one which would never be listened to; they would be very much in the way of the often large crowd of visitors, and would interrupt the view of the larger pictures, the effect of which is often best realised from a little distance. The suggestion of one correspondent, that Gallery IX. should be devoted to architecture, would not afford much more space, but it would have the advantage that the architectural drawings would be in a room through which the visitors circulate, instead of in a *cul-de-sac*, and that (as one correspondent remarks) they would be placed near the sculpture, with which architecture has closer affinity than with painting. Our own opinion was expressed long ago, to the effect that the large Gallery III. should be devoted to architecture and decorative art, including architectural models and executed objects of art, such as silversmiths' work, jewellery, &c. If this were well carried out, we believe it would be found presently that this would become one of the most attractive galleries in the exhibition; but it is hopeless to expect this as long as the great majority of the Academicians are painters, who think of their own art before everything else. But there is a practicable middle course that may be recommended. Taking the suggestion of Gallery IX. for the architectural drawings, we might claim that architectural models should find space in the centre of the large Gallery III. We should then have sculpture, architectural drawings, and architectural models, ranged *en suite*, and the large gallery affords space on its floor for a considerable number of models.

We should like to suggest, in reference to the correspondence on the subject, that it would be a great advantage if some of those who express decided opinions in writing would consistently illustrate their opinions in action. In an extract given in our last article from the letter of a very eminent architect, who is an Academician, he observes, while defending the use of perspective drawings, that "such perspective views might, however, be more frequently accompanied by floor plans than is now the case." Now the brilliant and effective water-colour drawings with which this architect illustrates his own buildings are, as far as we remember, never accompanied by a plan. In an extract from a letter printed in the present number, another well-known architect states that, in his opinion, "the worst of all ways of illustrating architecture is by an ornamental perspective," and he expresses his preference either for photographs of the building or for geometrical drawings. Yet his own works have been generally illustrated at the Academy, for some years back, by perspective drawings executed by an eminent professional draughtsman, whose style is always recognisable, who is not a member of the architect's office staff, and presumably had no hand in the designing of the building. If architects are so inconsistent in their practice and professions, it will be difficult to convince the public or the Academy that they are in earnest.

To sum up—there is no doubt, in this year as in other years, a certain amount of very interesting work to be found in the Architectural Room at the Royal Academy. But it is a mixture of all kinds of things, apparently selected and arranged on no principle of any kind; many of the drawings are not such as really to illustrate architectural design, but only architectural sketching; there is a wide-spread conviction that the selection is practically made by artists who have little interest in architecture; bad and vulgar designs are hung because they are shown in showy drawings which are not the work of the person who designed the building; the space allotted is insufficient for any adequate illustration of architectural design, and the room is one which the public does not ordinarily circulate through. In short, every care is taken to bring the pictures effectively before the public, and architecture is put into a corner where it cannot be

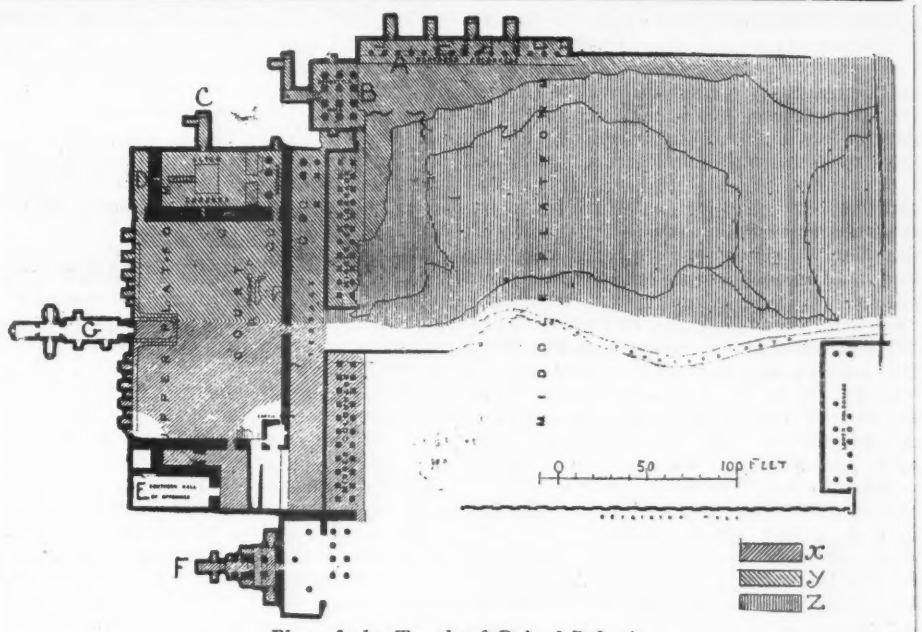
properly illustrated and where the public are not encouraged to go, and preference is given to pictorial drawings which cannot in the nature of things compete in interest with pictures properly so-called, while at the same time they are not the best means of exhibiting architectural design.

These, we think, are the main heads of the complaint. It is proposed by one or two of our correspondents that the architects should formally memorialise the Royal Academy on the subject. We think this would be a good course. It would at least compel attention to the subject, even if it resulted in no immediate improvement.

THE PRESENT POSITION OF THE LONDON WATER-SUPPLY QUESTION.

THE Dissolution has put an end, for the present, to the Water Bills of the London County Council. It is probable that the same result would have come to pass at the hands of the Select Committee had they had time to complete their labours, for the opposition of the districts outside the jurisdiction of the London County Council was so great and vigorous that it would have been difficult for the Committee to pass Bills which were repugnant to so many local bodies. Be that as it may, we now enter into another phase of this important matter. The recent attempt of the London County Council to obtain the control of the London water companies, in a piecemeal fashion, and without regard to the interests of suburban London, can scarcely be repeated. We have consistently advocated the control of the water supply of London and the immediately surrounding districts by a public body, but we have over and over again pointed out that this is a matter which is essentially one which should be dealt with by the Government. For it is only by the Government of the day that the question can be settled on a broad and fair basis. We have no desire to see the water companies make money out of the public, and we are quite alive to the weak points of these bodies. But there are a great number of persons interested in them, and no scheme will be satisfactory which does not deal with these interests in a just and equitable manner. It must always be a source of extreme regret to everyone who has at heart the well-being of London, that the scheme brought forward by Lord Cross when Home Secretary in a previous Conservative Government was not carried through. It is, in truth, to Sir W. Harcourt and his friends, who opposed that scheme, that the present *impasse* is largely due. But it is useless to cry over spilt milk; the matter has to be dealt with as it now is.

If the pecuniary value of the water companies has increased, so much the worse for the ratepayers of London, since it is certain that the latter will have to buy out the companies at their fair market value. It is one of the mistakes of the policy of the London County Council, that this body seeks to get the undertakings at a cheap rate—a policy which is both short-sighted and perfectly useless. Again, another thing is obvious: namely, that the longer the companies keep the control of the water supply of London in their hands, the larger will be the sum which the ratepayers will have eventually to give for the undertakings. In these circumstances, it will certainly be the duty of the new Government, if they are returned to power by the country, to introduce a measure by which the water supply of London and the suburbs shall be placed in the hands of one public authority. That authority must contain some representatives from the London County Council, but it is equally clear that other bodies outside the jurisdiction of the County Council must be given a fair representation upon it, with power for that representation to be increased as the population of the suburbs of London becomes greater. We confess we can see no insuperable difficulty in forming such a body, nor in formulating fair terms for the purchase of the present water companies. There is another advantage in a measure for the establishment of a public water authority being introduced as a Government Bill, since the enormous expense of an inquiry in the case of a private Bill before a Select Committee will be avoided. Again, we may also point out that the present Government is peculiarly well qualified to deal with this matter. It contains Lord Cross, who has already mastered the subject, Mr. Ritchie, who passed the Local Government Act of 1888, by which County Councils were created in the counties of England, who is thoroughly familiar with matters of Local Government. Mr. Chamberlain and Mr. Powell Williams have been members of the Corporation of Birmingham, and can bring their municipal experience to bear on the interests of London, and in the Home Secretary, Sir Matthew White Ridley, there is a gentleman of great experience in local matters in the North of England, and who has been Chairman of various important Commissions and Committees. The time is ripe, and the men are here to give London the control of its own water supply on fair terms to the present companies. If the new Government does not seize this opportunity, the question must continue in its present unsatisfactory and uncertain state, the public interest will be injured, and the shareholders of the companies will be in perpetual uncertainty as to what is to be done to their property. We urge, therefore, on every elector that he should bring this question home to every Parliamentary candidate for a Metropolitan constituency, so that there may be returned to the new Parliament a large body of Members pledged to give the control of the water supply of London and the suburbs to a competent central authority—not the London County Council, but one which shall be representative of the entire area now supplied by the water companies of London and the suburbs. If there is shown a sufficient force of public opinion there is no doubt that such a measure as we have indicated will be brought forward by a Government which is pledged to improve the social condition of the people.



Plan of the Temple of Deir el Bahari.

A Colonnade of proto-Doric columns.
B Hypostyle Hall.
C Funerary Chapel.
D Northern Hall of Offerings.
E Southern Hall of Offerings.
F Hathor Shrine.
G Sanctuary.
x Portion shaded thus completely cleared by Mariette.
y Portion shaded thus completely cleared by E. E. Fund.
z Portion shaded thus partially cleared by E. E. Fund.

NOTES.

THE exhibition, at the rooms of the Society of Antiquaries, of the work of the Egypt Exploration Fund at the Temple of Deir el Bahari on the left bank of the Nile, is of some special interest to architects, inasmuch as it adds materially to our list of examples of proto-Doric columns, the recent excavations having revealed a long colonnade (without entablature) of columns of the same type as Beni-Hasan, and a small Hypostyle Hall of twelve columns of the same type. This type of column is therefore beginning to assume more historical significance than when we only knew it as an occasional occurrence in very small groups. The columns appear to have been but roughly set out, but are in better preservation than those at Beni-Hasan. It is remarkable that although they are considerably later than the latter (the foundation of the Deir el Bahari temple being put at from 1400 to 1500 B.C.) the abaci appear to be thicker and more clumsy in proportion, and much less like the Greek Doric abacus, than those of Beni-Hasan. The accompanying small plan, reproduced from that attached to the guide to the temple published by the Exploration Fund, gives an idea of the rather peculiar arrangement of the temple and its subsidiary shrines; the plan, on a large scale, is hung in the Society of Antiquaries' room. The new proto-Doric colonnade is that on the upper side of the plan (A); adjoining, to the left of it, is seen the small Hypostyle Hall (B). Drawings, as well as photographs, of these portions of the temple are to be seen in the exhibition, as also numerous drawings of the painted subjects on the walls, a considerable number of mummies, and a good many tools and other implements of great interest, and some of them in a remarkable state of preservation. Those which are called "sacrificial axes" (they seem to us more like a form of adze) show a wide, thin blade of metal bound by narrow strips of tape-like material to a short, slightly-curved handle, the blade projecting backwards towards the holder, at an acute angle with the handle. Several of these are to be seen with the blade merely bound on to the wooden handle with these ligatures, which are in perfect preservation. A careful coloured facsimile of the painting on the north wall of the funerary chapel (C on plan) is one of the most interesting of the drawings. There is a curious instance of the "touch of nature" that makes us kin with these Egyptians of more than three thousand years ago, in the presence of a miniature mummy of a doll, which was found near a child's mummy.

IT is to be hoped that the meeting, held on Tuesday, at St. James's Palace, in support of the British School at Athens, at which the Prince of Wales presided, will have some effect in stirring up the Govern-

ment and public opinion in this country to a realisation of the discreditable position which England occupies, in comparison with France and Germany, in the endowment of archæological research. The French school at Athens has an assured income of 3,000*l.* a year, the English school a precarious income of barely 500*l.* The French school has been carrying out investigations which have excited the interest of the whole civilised world; the English school has its hands tied from any work on such a scale because we cannot get it recognised in England that such objects are worth any expenditure of public money. We observe that the resolutions carried at the meeting did not contain any specific undertaking to appeal to Government for assistance; only a general expression of opinion that the British School merited support, and a pledge on the part of those present to do all in their power to put the School on a sound financial basis, "so that in dignity and efficiency it may worthily represent this country among the other foreign Institutes at Athens." A resolution like this, carried at so representative a meeting, forms a pretty good basis for an application to Government for support; and possibly may be efficiently used to that end. What is quite certain is that the present state of things is a disgrace to England.

IT is reported (but we have no official confirmation of the report) that the architect for the new Museum at Cairo has been selected, and it has been decided to carry out design No. 49, by M. Dourgnon, of Paris. It may be remembered that equal premiums were awarded to four designs, Nos. 38, 46, 48, and 49. We expressed the opinion that the author of any one of these would probably be able to make a good thing of the building, and we remarked that No. 49 showed a very good plan. If the report is correct, we should therefore think the result satisfactory.

AN appeal is being made to the public for further funds to complete the work at St. Saviour's, Southwark. The funds in hand have been entirely expended in the first and main work of rebuilding the nave. The committee has yet about 3,000*l.* in promises (not due yet), and about 5,000*l.* more is needed for the completion of the interior, and until this sum is raised and expended the church cannot be opened for worship, though it is open daily to the public for inspection. St. Saviour's is not only the most important Mediæval building in London, next Westminster Abbey, but it is to form also a kind of cathedral for South London, and it is to be hoped that the completion of the building will not be allowed to remain indefinitely adjourned for want of funds.*

THE Royal Archæological Institute commences its annual meeting on Tuesday next week at Scarborough. On Wednesday, the 16th, the Association will visit Bridlington and Burton Agnes Hall; on the 18th they will go to Whitby; on the 19th to Beverley; on the 20th will be held the annual business meeting, and Malton and Kirkham Priory will be visited afterwards. On the 22nd visits will be made to Rievaulx and Helmsley, and on the 23rd to Lastingham Church and Pickering Castle.

WE much regret to hear that it is proposed by the Corporation of Bury St. Edmund's to utilise the interesting old Norman vaulted interior, known as the Moyse Hall, as a fire-engine station, a purpose for which we should not imagine that it was at all well suited, while in such an occupation the ancient work is almost certain to get knocked about and injured. A memorial is being got up in Bury St. Edmund's, asking the Corporation to make use of the interior as a museum of local antiquities, a purpose for which it is very well suited, and in the fulfilment of which the building would be likely to be taken care of, and would appear in harmony with its surroundings. The Society for the Protection of Ancient Buildings is also, we hear, moving in the matter, and though we often have had to disagree with that body, they would certainly have our sympathy in this case.

* Subscriptions can be sent to the Bishop of Rochester, the Bishop of Southwark, Sir F. Wyon, Mr. Robert Barclay, or to the Lay Hon. Secretary, Mr. T. F. Field, at 54, Borough High-street.

THE remarks of Sir John Bridge, the very experienced senior Magistrate of the Metropolis, on the need for kiosques for the sale of newspapers, might very well be turned to practical effect by the authorities. They would do something to make the traffic of the streets more pleasant, and would not only do away very generally with shouting newspaper-boys, but would prevent the untidy selling of newspapers by vendors at some frequented spots, who deposit the contents sheet for inspection in the gutter. It is quite possible to construct a kiosque in a style which should make it sightly in the streets, so that not only would the public be able to purchase newspapers of various kinds, at specified spots, but no ugly structure would be required. From Sir John Bridge's point of view, the newspaper-boy of the London streets is on the road to ruin, so that the establishment of kiosques might be regarded not only as conducing to the comfort of the public, but to the well-being of the masses.

THE successful opposition of the Corporation of Dublin to the Bill promoted by the Dublin United Tramways Company to grant them power to adopt a trolley system of electric traction in Dublin has led to a good deal of bitterness on the part of the advocates of this system. The directors of the United Tramways Company thought that so long as they conformed to the regulations of the Board of Trade, the Local Authorities ought to be satisfied, hence there was no clause in the Bill empowering the Local Authorities to veto any proposed meddling with the streets. The right to use overhead wires so obviously concerns Local Authorities that any other result than the rejection of the Bill could hardly have been anticipated. The facilities for rapid transit offered by electric traction will make its introduction into Dublin merely a question of time; but some doubt still exists as to the particular system which will be adopted. The directorate by their injudicious action have delayed matters for a time.

THE cause of prevalence of enteric fever at Widnes has been the subject of a Report by Dr. R. Bruce Low to the Local Government Board, which results in fixing the evil on a bad form of privy and ashpit apparently peculiar to the district. No fault could be found with drainage or water supply, but the method of excrement disposal is by means of the midden privy system, and there is met with at Widnes a form of privy vault, of which a sketch is appended to the Report. The ashpit, in this case often uncovered, is above the privy vault, the top of which is arched over to form the floor of the ashpit. The excrement from the privy passes from under the seat down an earthenware or iron "shaft" into the vault, which is usually about 6 ft. deep and 8 ft. long. These shafts are always foul and coated with excrement. There is a door, opening on a level with the back passage, whereby the vault is emptied. Occasionally the brick floor of the ashpit (the roof of the privy vault) collapses, and there results a huge open cesspool, which is liable to foul the air in proximity to dwellings. This variety of privy is known as the "M.C.," or more fully as the "Modern Convenience." It has, says Dr. Low, nothing whatever to recommend it, and is at present very properly condemned by the sanitary officials of the Borough of Widnes. In emptying the Widnes middens and vaults the wet night-soil and refuse are often first of all thrown out upon the surface of the back passage, and then loaded into the Corporation carts. Some passages are too narrow to admit carts, and the filth is wheeled in barrows to the street, and there shovelled into the carts. The middens and vaults are emptied by the Corporation's men, four or five times a year. It is admitted that the surface of the passages or back lanes is seriously fouled by excrement on each occasion when the emptying takes place. These back passages have never been "made"; commonly they have a broken and soft surface, repaired occasionally with cinders or the like, and they have become saturated with filth, and children make them their habitual playground. "In a word, the air round the dwellings in Widnes is habitually fouled by emanations from collections of human and other filth stored close to the houses under very unfavourable conditions, and the tainted atmosphere that is there breathed by the inhabitants cannot fail to have an injurious effect upon them."

THE Metropolitan Public Gardens Association have in view the laying out of the at present closed burial-grounds attached to the churches of St. James, Pentonville, and Christ Church, in Blackfriars-road. The former church was built in 1788; there were buried Grimaldi, the famous clown, and R. P. Bonington, the landscape painter. Christ Church was originally built in 1670-1, on the bequest of John Marshall, who left 700*l.* for that purpose, upon part of the manor of Paris Garden; a steeple was added in 1695. The foundations having given way, the church was rebuilt, of brick, in 1738-41. Four years ago were added a new chancel, with organ-chamber and vestries. The body of the church was divided into nave and aisles by two arcades of red and white stone, and the rest of the structure was thoroughly repaired and strengthened. The latter works were executed by Mr. G. Dobson, of Colchester, after Mr. C. R. Baker King's designs (see the *Builder*, April 18, 1891).

THERE have been on view lately at Messrs. Campbell, Smith, & Co.'s premises, the first of a series of windows which are to be executed by the same firm for the important new memorial church at Berlin, to be erected to the memory of the late Emperor Frederick. As these designs have been selected in competition with German firms, we presume that English glass is thought somewhat highly of in Germany. The scheme, as a whole, suggests "Triumph over Death." It consists of three circular compartments worked into the upper part of a pointed arch, and having below four lancet-shaped divisions. The upper circular window shows "Our Lord Triumphant," with the Resurrection banner. The treatment of Christ as a three-quarter length figure is, perhaps, not quite happy for a leading subject. Below, in circular frames, are St. Paul and St. Peter, with their attributes, and, in order to carry out the general scheme, we have, in the four lower lancet-shaped compartments, St. Paul with Eutyclus, Our Lord raising Jairus's daughter, Our Lord raising Lazarus, and St. Peter raising Tabitha. These as central figures are surrounded with an Early and rich conventional treatment of the Tree of Life, and having interwoven with it the Royal Shields of Germany and Prussia. The colouring throughout reminds one of Early English work, with strong and sharp contrasts in primary colours of rich hues. These are thrown up by being placed in a dark background, and will have, we think, a rich and very appropriate effect for the large building for which they are intended.

SITTING in the Consistory Court, last week, Dr. Tristram, Q.C., granted, upon an application made by the District Board of Works, a faculty for taking down the Belasyse monument, St. Giles-in-the-

Fields, and removing the portion which bears the inscription to where it will be protected from the weather. It was represented in court that the fabric which, now screened by hoarding, stands against the east wall (outside) of the parish church, and is built of stone and marble, has fallen into a decayed and dangerous condition. It was set up in 1736 by the two surviving daughters of the famous royalist soldier, John, first Lord Belasyse and Baron Worlaby, who died in 1689. We referred to the monument in a "Note" on July 9, 1892,* pointing out that it differs from the memorial described by Hatton, in his "New View of London," as standing within the chancel, north side, of the old church, and as having been erected there "Anno 1670 [*sic*] in memory of the Honourable John, Lord Belasyse." The inscription, transcribed, but not faithfully, by Hatton and others after him, records his three marriages, with their issue, and his signal military services during the Civil War. The stone in which it is cut will, in pursuance of the faculty, be placed inside the west door, if practicable, or, if not, in the crypt, of the church. A memorial tablet to Lord Belasyse was placed in the parish church at Worlaby, near Brigg.

THE consideration of the proposal to have a class of "craftsmen" in connexion with the Institute of Architects, which was discussed at a private meeting of the Institute, on Monday last, has been adjourned till next session. As might have been expected, cold water was thrown upon it by speakers, or by one speaker at all events, who may be said to represent the ultra-"professional" view of architecture, but nevertheless the opinion that it is too difficult a subject to be considered or settled in a hurry can hardly be contradicted. It will be found, however, that what satisfied architects in the glorious days when Earl de Grey was President is not likely to satisfy those who really represent the best thoughts and views of the present architectural period.

THE REPRESENTATION OF ARCHITECTURE AT THE ROYAL ACADEMY.

WE give here a further selection of extracts from some of the numerous letters we have received on this subject. We have thought it best to give them in alphabetical order:—

MR. F. T. BAGGALLAY.

"The people who are satisfied with the present exhibition must be, I think, peculiarly constituted, or entirely pessimistic.† It is not an exhibition of architecture, of course, and it is not even an exhibition of architectural drawing in any real sense of the term. It is an exhibition of more or less ambitious pictures of architectural subjects by amateurs, for architects are, and must generally be, amateurs at picture-making. I cannot but believe that much public indifference results from the fact that these amateur pictures enter into a sort of absurd competition with the more interesting, and much better executed, pictures in the other rooms; and I do not believe the exhibition could lose by dropping the gilt frames and the pictorial effects, even in the estimation of 'the public.' I rather join issue with those of your correspondents who think 'the public' cannot read plans; of course, there are dense persons who cannot do so, but my experience is that most people can and do understand plans, provided they are *drawn clearly* and not confused with a multitude of details—of course, not as fully as architects do, but enough to take an interest in them. Even sections, if they were got up in a similar clear style, would not, I believe, be beyond most amateurs. I have also some experience to go upon when I say that laymen take just as much interest in a perspective drawing or sketch on a small scale and with no pretension to pictorial effect as they do in our more ambitious pictures.

So much for the public; as to the profession, it stands to reason we should like to see the working drawings, or something as nearly like them as the author's vanity would allow him to show. I don't like models; it is prejudice, perhaps, but there is a sort of doll's-house childishness about them that grates—they seem waste of time, as it were. I am for enough geometrical drawings and sketches and photographs of parts to exhibit the building, as far as a building can be exhibited inside a room.

I am with those, too, who would throw out of the Architectural Room sketches of old work and small scale drawings of stained glass windows and decoration. Let us have the cartoons if they are worth showing, but the small drawings are no no more *real* than our perspectives of buildings.

I cannot say I hanker for the perfection of finish of the Salon exhibits; it, again, seems like childish waste of precious moments. Students already spend quite time enough in mere drawing, and it has far too much influence on the judgment alike of laymen and professionals. What we want is to see what the building is, or will be, like, and not how beautiful the drawings are—the architect's work, and not the draughtsman's."

MR. F. W. BEDFORD.

"I do not consider that architects have the same advantages in exhibiting their work as sculptors or painters.

In the first place I think the room is too small, and it should be one in the general suite and not a *cul-de-sac*.

As to the style of representation, I think that all restrictions should be removed, and that one should be allowed to send any form of illustration—photographs especially, which show the materials so clearly. Strainers should be admitted, and drawing in any kind of frame. . .

With regard to geometrical elevations, &c., I consider that the *majority* of buildings are better shown and more clearly understood by the public, and architects as well, if shown by perspective views—either photographs or drawings. An elevation may explain some buildings—street fronts, for instance—better than a perspective, but in a country house or detached public building, where grouping, outline, and general proportion are the chief things to aim at, a geometrical elevation is of very little use, and often very misleading.

Plans are always interesting, but if exhibited might often be unjustly criticised, as the reasons for certain arrangements are only known to the architect and his employer."

MR. JOHN BEGG.

"My feeling in the matter is that architecture at the Academy exhibitions must of necessity be inadequately represented, and in a manner not at all commensurate with its relative importance among the arts. *Our* gallery is the street—nay, the world!

Again, if we have exhibitions of drawings, then the nature of these drawings must depend on the object of the exhibition. If we wish to exhibit to the *public*, surely the perspective is the proper form for our drawing to take, the only form the public understands; if to our fellows, why then surely the detailed geometrical drawing is the fittest. In the former case must we not be content with the corner in charity allotted to us at the Academy, which is large enough alike for the numbers of the public who wish to look at our work and for the numbers of drawings worth their looking at; in the latter case, of an exhibition to be viewed by architects, would that not be more appropriately held by any other body than the Academy—say, by the Institute?"

MR. E. INGRESS BELL.

"It appears to me that the public never was attracted by an exhibition of architectural drawings, and I think never will be. To make the collection of drawings more technical by the mixture of plans, sections, and elevations, to the necessary exclusion of purely pictorial representations, would only puzzle and repel the public the more.

For whom is the display? For the public? Then let it be as pretty and peep-showish as possible. For the profession? Then let it consist of technical work almost entirely. In the former case the Academy is the proper *locale;* in the latter the Institute. But will architects contribute to a show where no clients are to be caught, and only their fellow architects enlightened?"

MR. R. A. BRIGGS.

"I think the amount of space placed at the disposal of architectural subjects to be totally inadequate, and, in my opinion, there should be *two* rooms, both of which should be at least double the size of the existing Architectural Room. One room should be for purely architectural subjects. *Sets* of drawings should be hung, comprising geometrical plans, elevations, sections, and detail drawings, also a perspective or perspectives. Models should also be exhibited. The second room should be more for decorative works, such as decorations for interiors, stained-glass, designs for fittings and wall-papers, &c. . . . I think also, that no perspectives should be admitted unless they have been actually made by the person in whose name they are hung, or, at least, by a member of the firm. It appears to me ridiculous that a drawing which is evidently made by one gentleman should be hung as the work of another. I am certainly in favour of more prominence being given to geometrical drawings, but at the same time I think it would be a very short-sighted policy to do away with perspectives, as, in my experience, I find that the public very seldom thoroughly understand a geometrical drawing, and it is only right we architects should put forward our designs in such a way that 'they are understandable of the people.' In conclusion, I suppose the only way will be for us to 'agitate' and present a petition to the Royal Academy authorities begging (1) for another room in addition to the existing one for architectural subjects, and (2) that more prominence should be given to architectural geometrical drawings."

MR. JAMES BROOKS.

"I believe there is always one architect deputed to make a selection, but how he is able to examine the large number of drawings in so short a space of time, I am unable to understand. There must be work enough for at least two, to do justice in the examination.

If the Academy would permit one outsider to be nominated by the President of the Institute, to be associated with the Academy architect, there would be a chance of architecture to be better represented than at present.

I am greatly in favour of geometrical drawings, plans, sections, and elevations being exhibited; in my opinion, many pictorial representations of buildings are very deceptive."

MR. BASIL CHAMPNEYS.

After observing that he does not think the space allotted to architecture at the Academy inadequate, because the evidence of the architect's work is his buildings, Mr. Champneys says: "It is, however, very desirable that such representations of buildings as are exhibited should be thoroughly *bonâ-fide*. The best representation of a building is a photograph, which necessarily gives a fairly accurate idea of the actual work. The next best is an unadorned elevation or section, with at least so much of a plan as may be required to explain the grouping of the building. The worst of all, as it seems to me, is an ornamental perspective, made in the usual *ad captandum* manner; often giving a very false idea of the actual work. Also the present system of exhibition is calculated to encourage in the public mind the idea that draughtsmanship is architecture, whereas it is nothing of the kind. It is possible that were the architectural exhibits limited as I would gladly see them to photographs and geometrical drawings, there would be less interest taken in the exhibition on the part of the general public than there is at present. But even as it is, the popular interest in the Architectural Room is so small as to be practically a negligeable quantity. Few but architects seem to study the drawings, and architects would get far more insight into the quality of work, and consequently more instruction from it, if its illustration were limited by the methods I suggest."

MR. LANGTON COLE.

"There is, apparently, no classification or proper selection of the drawings submitted. I think the space might be increased by erecting a screen in the centre of the room, as I fear it is hopeless to ask for more wall-space. I consider that every design (except examples of flat decoration) should be accompanied by plans of the principal floors of the building represented; but I rather doubt the value of geometrical elevations, and I think sections would be out of place. I consider that the building should be shown as nearly as possible as it will look when completed, and I am, therefore, in favour of carefully-drawn and simply-coloured perspectives, except that buildings entirely of freestone might be shown in line. . . . If elevations are exhibited, I should like them slightly tinted to express the colour, with some details to a larger scale to show the style of ornament."

MR. CAMPBELL DOUGLAS.

"In my opinion, what you call the 'pictorial' representations are in general too prominent, or

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* See also a letter, signed "Royalist," in our issue of June 3, 1893, calling attention to its sorry state.

† Does not Mr. Baggallay rather mean to say that they are "optimistic"?—ED.

rather, I should say, there are not enough of plans, sections, and elevations by which to judge of the first. On the other hand, it should be borne in mind that we exist for the public, rather than they for us. Hence architecture that is to be, if it is to be presented at all, must be shown in an attractive and natural way for the benefit of those who have not had professional training by which they might understand so-called 'geometrical' elevations. . . .

If a perspective be made on principles which do not violate natural conditions—if the horizontal line, on which all the corners, doors, windows, buttresses, &c., &c., are set out—be drawn in its true relation to the building, such as at eye line on level ground, or raised or lowered in the proper degree according as it is above or below one's eye; and if the whole view can be easily seen, say within 50 deg. or 55 deg., so that one does not require to turn one's head round as is done in viewing a diorama; in these circumstances, after making allowance for vertical diminution, we have in perspective as truly a geometrical elevation as in what is usually called by that name. Indeed, it is the only true and natural view of a building.

So I would have both "geometric" and "perspective" drawings of the same building, and would indicate the distance of the standpoint, the size of enclosing angle, and the level of the building site in relation to the standpoint of the viewer.

I agree with Mr. Jackson as to the superlative value of photographs, but you cannot photograph what has not been built."

MR. T. PHILLIPS FIGGIS.

"I am of opinion—

1. That the present representation of architecture at the Royal Academy is most unsatisfactory.

2. That, being a Royal Academy of Arts, and architecture the oldest and most important art, the largest, and not the smallest, room should be devoted to architecture, viz., No. 3 Room.

3. I consider that more prominence should be given to geometrical elevations, plans, and sections of designs, and that full-size cartoons of stained glass should be allowed, and the exhibition of models of buildings encouraged."

MR. F. T. W. GOLDSMITH.

"In reply to your letter of the 21st, I venture to hand you my views on the subject mentioned therein, as to question :—

Few can think the present arrangement satisfactory, either from an artistic or educational (*i.e.* public) point of view. Even those fortunate enough to belong to the set in favour at the R.A. this year cannot regard the exhibition as entirely representative, nor in any sense adequate; it is well known (or should be) that many drawings of buildings having great excellence and wide public interest were rejected. So much for the selection method and its results.

Located in an *end room*, reached by the picture-gazer after a long tramp through the "oil" galleries, how is it possible that the Architectural Room should ever contain more than half-a-dozen jaded loungers, leavened by two or three architectural students? . . . .

The first change I would venture to suggest is that the room should be changed. At the end of the lecture-room is a small gallery (No. 9), now used for 'oils'; this I would like to see set apart for architectural works, and the oils transferred, with more wall space, to the Architectural Room. My reason for this is twofold: first, that the public would then pass through the Architectural Room, and the architectural exhibits would properly come near the sculpture. It would also have this advantage, that many architectural exhibits might be put in the lecture-room with the sculpture, suggesting, at any rate, *a union of the arts*, which is absent now! And as to exhibits—in place of many useless and uninteresting—even *misleading*—perspectives, I should like to see beautifully-finished sections; by that I mean to include the entire decoration and fitting up of the building. These should be accompanied by plans and elevations all to a reasonably large scale, and finished with the same care and end in view, viz.: to fitly illustrate the finished work. As models of what can be done by mere sections and plans, I need only refer to the French schools. With a change of room and a sweeping alteration in the nature of the exhibits on the lines I have indicated, I feel sure we should have a popular architectural show and one that would help to put architecture in her proper relation with other arts. As to whether it would be possible, in the case of a building of more than usual excellence and size, to illustrate it by means of models I cannot say. My own view inclines to finished sections and plans rather than to models which, at the best, can only be regarded as toys of a kind."

MR. J. A. GOTCH.

"I think more space should be allotted for architectural designs, and no drawing should be placed too high to be carefully examined. It is far more necessary to have an architectural drawing easily visible than an ordinary oil-colour picture, inasmuch as the small detail is of the essence of the interest.

While fully recognising that to a certain extent mere architectural draughtsmanship ought to find a place on the walls, I am convinced that the power of architectural draughtsmanship is not necessary to a power of designing architecture, and that it frequently gives an interest to the drawing which the building itself entirely lacks.

I strongly hold, therefore, that a far greater proportion of geometrical drawings ought to be exhibited, and that photographs of executed work, both general views and details, ought to form a recognised part of architectural illustration."

MR. C. HADFIELD.

"I am decidedly in favour of greater prominence being given to geometrical elevations, PLANS, and sections of architectural designs in place of merely pictorial representations of buildings."

MR. E. SWINFEN HARRIS.

"1. I think more detailed drawings, geometrical elevations, and, specially, plans showing good plotting and arrangement, would be far more useful to the profession than the mere pictures, frequently produced by persons not the real designers of the works illustrated, and which, being very costly of production, are prohibitive to many of the younger exhibitors, whose 'perspectives,' often of more artistic excellence, and far more truthful, are excluded to make way for more florid productions.

2. The lack of all this makes the R.A. fail in much of its interest and value in the eyes of those who know and appreciate design, and who can value architecture on its real merits.

3. I think plans, especially sections, to a good scale, should have every opportunity afforded them in preference to many of the mere 'perspectives,' which are often of no practical value whatever from the lack of one or other of these. . . . The greater introduction of designs for stained glass and 'instrumenta,' of late years, has been of great value and interest, and might very well be still further developed and extended."

MR. A. HART.

"With regard to the question of geometrical drawings instead of pictorial representations, it is not at all my opinion that the former should have more prominence than the latter, as I maintain it is certainly possible to show quite accurately a design in a perspective form; it is, moreover, far more truthful, if correctly done, to the uninitiated (for whom the Academy is intended), and very much simpler to understand. Surely this English manner of illustrating architecture is by far the most satisfactory, since for the ordinary public it is the only way by which the design may be expressed. There is, of course, plenty of room for improvement in draughtsmanship and artistic representation, but I maintain it is the correct method for us as architects to adopt, *especially when we exhibit to the ordinary public*."

MR. C. E. MALLOWS.

"To my mind, the ideal way to illustrate architecture there would be by means of models, such as Mr. Prior shows this year, with explanatory plans and sections. Next to that, I consider pictorial illustrations, drawn by artists and further illustrated by plan and sections, in the same frame, but not in the picture itself. . . .

Mr. Wilson's water-colours of the Church at Boscombe would have been the perfection of architectural illustration, in my opinion, if plans and sections had been added in a lower panel of each frame.

I am afraid I do not agree with geometrical elevations merely, unless they are shown in the French manner, with the shadows, &c., projected, so that an idea can be formed of the amount of relief and light and shade, &c., the architect intends in his design. Otherwise, pure line drawings seem to me to be valueless as interpretation of architecture, and certainly are not understood by the average visitor at the R.A., to whom, I think, the Architectural Room might and could be made as attractive as the Painting Galleries."

MR. ALEXANDER M'GIBBON.

"Without complaining overmuch of the present measure of regard shown to drawings of architecture perhaps we should claim: More ample accommodation — the withdrawal of irksome regulations as to glass, gilt frames, &c.—the creation of a jury of selection and Hanging Committee, composed, say, half of Academicians, the remainder of members of the Royal Institute and the Architectural Association.

These granted, it would remain with architects to justify the changes by making the annual exhibition more educative to public and profession alike by more faithfully illustrating current design, including such designs as are carried into execution; for if the display could, by architects, be confidently pointed to as containing models for public approval, in contradistinction to the vulgar types in vogue, something, indeed, would be gained. . . .

Geometric drawings might well share in the current favour accorded to perspectives, for with shadows projected difference of plane is almost as well realised. I imagine, however, that these in time would become just as much the work of the specialist draughtsman. As for models, unless in such case as a theatre section with twisted galleries, or the like, I can in no particular see their utility."

MR. ARNOLD MITCHELL.

"All who are, or have been at any time, constant visitors to the Architectural Room of the Royal Academy (these cannot be a very large class) must come to the conclusion that in so far as the general public is concerned, little or no interest is manifested in the shows. This fact must, I think, be accepted by architects; and I would go even further, and express the opinion that it is idle to try and compel attention to what in itself is not of interest to the lay mind. It is all very well to talk and write about educating the public. In the first place, the public do not apparently wish to be educated in such matters; and, in the second place, it seems to me that a show of architectural drawings is about the worst means that could be devised for attracting those whose interest we desire to gain.

Architectural drawings are at best very poor things, and it is hardly to be wondered at that interest—which a fine building might possibly arouse—is not aroused when the representation only is presented. A picture is the end and object of the artist; an architectural drawing is nothing, and can be nothing compared with the ultimate object of the architects' work; and it is this ultimate result which must be placed before and brought home to the outsider before we can hope that any appreciation that is real and genuine can be evoked. . . .

The models shown at the Royal Academy this year are certainly a step in the direction of making the Architectural Room more popular, and I venture to think that photographs of executed buildings would be of even greater value in this direction. . . . If greater encouragement were given to elevational drawings, it does not seem to me that thereby the exhibition would be popularised; no doubt it would be most welcome to architects, but architects form a very small proportion of Royal Academy visitors, and the change would probably make the gallery even emptier than ever.

From the large number of inferior drawings that are hung each year the conclusion is a fair one that but few good ones are submitted, and this seems to point in the direction that sufficient space is now provided."

MR. ERNEST NEWTON.

"I do not think that the present representation of architecture at the R.A. is entirely satisfactory. At the same time, I don't think that any architectural exhibition can be satisfactory. The building, and the building alone, is the architect's work.

Personally, I doubt if geometrical elevations are particularly enlightening, as everything is shown on one plane. Plans should, I think, always accompany drawings.

I think, too, that photographs of buildings should be allowed; of course, they are not often flattering to the building, but they are, at any rate, more honest than the "perspective" we know so well. The clever draughtsman can so cook and get rid of the awkward pieces, that, in the end, the drawing bears but little relation to the building: one knows of many instances in which the whole proportion of the original building is altered and improved by the tricks of the draughtsman.

Well-made models, showing colour and texture,

fairly represent the building, perhaps; but then the landscape is lacking, and that often determines the character of the house.

Then, certainly, architects should have greater representation on the Selection Committee: painters are not very sympathetic judges of architectural drawings or photographs.

Seriously, I am inclined to think that it would be best if there were no Architectural Room at all, but then the absence of architecture would be taken as an acceptance of the fact that architecture is a business, and has nothing to do with art."

MR. A. N. PRENTICE.

"Architects, in order to convey a correct and intelligent representation of their buildings, ought to be allowed to show plans and sections of their works as separate exhibits, which should be hung in groups, and not, as is usual, with a little plan placed in the corner of a perspective view. I am not at all of the opinion that perspective views should become secondary to the geometrical drawings, although I consider the usual mode of making pen-and-ink perspectives (generally to a scale less than one-eighth of an inch) to be of very little value. Why not draw our perspectives to a much larger scale, say not less than ½-in., and employ the brush for working up an effect. In this way any defect of detail or construction would be more readily observed. If plans and details of the same building, drawn to a large scale, were admitted to the Academy, the architect would be, no doubt, put to a considerable outlay in specially preparing them, but why should his pupils not be taught to make large coloured drawings after the Paris manner? Nothing could be more charming than the interesting manner in which M. Chedanne's drawings of the Parthenon were prepared. Why not also have enlarged photograph views of buildings? . . . . But to carry out all these reforms it is plain we must have more exhibition space, and the Architectural Room should be one that is passed through by the public leading to galleries beyond, and not, as at present, forming a kind of *cul-de-sac*."

MR. E. S. PRIOR.

"As *amusement* the pictures and the sculptures seem to go down with the public, but the architectural exhibit does not. Why should it? What is shown is not genuine work of the architect, but is only a ridiculous advertisement of it. Everybody knows this, and people do not go out of their way to read stupid advertisements! *

The painters and sculptors show their real work, with a seal upon it of personal authenticity, which it would be an insult to question; but as an architectural exhibitor how often have I been asked by my brother architects if I did what I show myself? They know that it is mostly sham performances that the Architectural Room exhibits. What is so well understood among ourselves is, of course, appreciated by the public, and they show a wise discrimination in refusing to be interested. . . .

It is possible that the exhibitions of the actual working drawings made and signed by the architect himself, and accompanied by a photograph of the work produced from them, might allow the public to get interested in the personality of the exhibitor; but I fear that into this, too, would creep the old insincerities, and the whole thing be as much discredited as ever.

In my opinion the Royal Academy should confine its architecture to the platform of its other exhibits—admit only architectural representations (1) which are pictures in themselves, and, made to that end, can be exhibited as such with the paintings and drawings; or (2) which are modelled and can stand on the same basis as the sculptor's models, as the work of the artist himself."

MR. LACY W. RIDGE.

"I know of no representation of architecture at the Royal Academy. There is a room of architectural drawings, which I note, with regret but without surprise, does not interest the public.

I regard the exhibition of architectural designs in competition with the finished works of painters and sculptors as detrimental to architecture, firstly as prejudicing it in the eyes of the public, and next in encouraging an over-estimation of architectural drawing as such, a danger against which William Burges warned students in his day. One seldom sees a building which is quite up to what the Academy drawing suggested.

I think elevations, plans, and sections would be deeply uninteresting to the public.

My impression is that if the Royal Academy cares to do much for architecture it should stop the present exhibition and promote an architectural exhibition, apart from a picture-show, though not necessarily from sculpture. In this architectural drawings (including artistic geometrical drawings) of new, proposed, and old work should be shown, as well as carving, decoration, glass, and other accessorial arts. Those who paid their shillings might be few, but they would be interested in architecture and the formative arts, as apart from the distinct and, in some sense, opposed imitative arts."

MR. W. F. SALMON.

"I have thought that for many years the exhibition of architecture at the Royal Academy has been unsatisfactory, and I shall be glad if something can be done to make the exhibition a more worthy and useful one. With reference to your suggestion that more prominence should be given to geometrical drawings, I would say that each architect ought to be left to illustrate his own work in his own way. I have always thought that photographs should be admitted, and that the restriction against all but gold frames should not apply to architectural drawings. In our Glasgow Fine Art Institute a committee of architects (not all members of the Institute) have the control of the architectural section, and this plan works very well, except that here we are very much restricted for space.

I would suggest that a representative committee of architects should be appointed to control the yearly exhibition at the Academy, and that a much larger room should be devoted to it."

MESSRS. BAILLIE SCOTT & SETON MORRIS.

"Although there appears to be a feeling of dissatisfaction amongst architects as to the limited accommodation afforded to architectural drawings at the Academy, it is difficult to advance any definite criticism unless we are assured that the limitations of the space at present afforded involves the rejection of any appreciable amount of really meritorious work.

With regard to the question of the desirability of giving more prominence to geometrical designs, although these would undoubtedly be more interesting to architects in an exhibition which is presumably primarily intended for the general public, it is probable that technical drawings would prove even less attractive than the perspective view. The geometrical elevation is, after all, merely a means to an end, and, apart from technical interest, is of very little value in expressing the really fundamental qualities of a building. It may be even said to be misleading, because it does not in any way suggest the paramount importance of the masses or the point of view, and leads one to imagine that architecture is more concerned with flat surfaces than with solids.

If the object of the drawings exhibited may be assumed to suggest to the general public the actual appearance of the completed building, the perspective view certainly seems to be the most desirable if it is honestly executed and does not suggest qualities which do not appear in the actual building. It is also to be wished that more individuality and variety should be given to the drawings by giving the preference to those which are the work of the architect of the building.

The introduction of models for the first time this year appears to be a step in the right direction, because they give the real masses and grouping of a building from every point of view."

MR. H. D. SEARLES-WOOD.

"I am of the opinion that the Architectural Room at the Royal Academy does not adequately represent the architecture of the year, and that as at present arranged it is not satisfactory.

I am in favour of the admission of geometrical illustrations of architectural designs in place of perspectives."

MR. E. SEWARD.

"Architectural perspectives alone do not duly represent current architectural work. . . .

I have long considered that a really interesting annual exhibition could be got together by a combination of interests in which—at least—the Royal Institute of British Architects, the Architectural Association, and the Royal Academy could be represented. Whether this exhibition might be continued in the present Academy room (with some proper and adequate addition) would be a further question. Instead of merely gold-framed drawings, with black and white, colour and monotone jumbled together; sketches of old work of ideal notions—competition or otherwise—and dashy perspectives of unexecuted work thrusting more staid elevations of actual buildings off the line. A yearly show, attractive and educational to the profession and the general public alike, could be got together with little difficulty.

There are circumstances and stages of work in connexion with most buildings of importance which would go to show much of the real interest and responsibility of the architect's work.

Most architects could show a frame of first ideas, with sufficient indications of their later development and progress. . . .

Such an exhibition could not fail to interest the public more deeply in our profession.

A further feature would soon be reached in the more general use of architectural modelling, an almost neglected art in England, but one which must go very far towards solidifying and improving architectural design, especially if carried out in a less flimsy and unsubstantial material than cardboard. To follow the development of architectural designing further, the first and later models for art ironwork, stone-carving, mosaic decoration, &c., together with accessory arts like stained glass and mural decoration, would all have their due place."

MR. LARNER SUGDEN.

"I do not consider the present representation of architecture at the R.A. satisfactory. The selection appears to be negligent or arbitrary, or both. . . . If more space could be found it would probably be consumed by perspectives now rejected, though good plans and elevations would prove infinitely more interesting to those for whom the show ought to be intended than this method."

MR. C. J. TAIT.

"Architectural excellence does not consist in draughtmanship; such a faculty is merely a valued instrument in the hands of the designer; and if it be true that a good picture is known by what it omits rather than by what it embraces, the tendency of these drawings, admirable though they be in their own way, is to become correspondingly less explanatory to those who seriously desire to discover the intention of the designer. The Academic style—in painting, at least, and it is pre-eminently an Academy of Painting—has always been regulated by deference to public opinion rather than inspired by a desire to direct it. But no public that I am acquainted with has been ever moved to an intelligible utterance upon architecture, and less upon architectural drawing, so that its interests are not involved in the present question. The size or age of an actual building, bearing, perhaps, upon its face the records of history, appeal to obvious human instincts, but delineation, as a graphic art which is not imitative, finds the average imagination unresponsive.

Hence an exhibition of architectural drawing directed toward the encouragement of architecture has only those engaged in its performance to whom it can appeal, and such a one is concerned with, not whether a drawing be a pretty picture, but with whether it is explicit.

One may ask, Can any drawing, while remaining true to itself, adequately represent a creation conceived in brick or stone may be, but certainly not in lead-pencil? . . . I would answer that it may, but expressed in the symbolic [language] of working drawings—a language that those who run may read, but a vehicle only, and not an end in itself. Therefore I would advocate the abolition of perspectives, whether drawn by the architect or not, unless such a drawing be on a footing with other working drawings—namely, as an essay in projections and sky-lines—and give my unqualified approval to the admission of plans, sections, and elevations. This would include a demand for further space being conceded, partly owing to the increased number of drawings necessary to adequately explain one building, but also that these drawings should be drawn to as large a scale as possible, that they may express themselves boldly by colour as well as by line.

This work, I maintain, need for no reason fall upon the actual designer, except upon the assumption that he can do a thing better himself than he can get others to do it for him. It is purely documentary clerk's work, and we are in no way concerned with how proficient a designer may be with his pencil—a matter entirely one of personal convenience. In saying this much, the all-important question of STYLE in architectural drawing is in no way trenched upon. I insist only that picture-maker and architect are two persons, no to be confounded."

* We cannot print this without a protest. We think it a very uncharitable remark. In a sense all exhibits are advertisements, and we do not see why the term is to apply to architectural designs more than to any others, or to drawings more than to models.—ED.

MR. SYDNEY VACHER.

"I cannot think anyone is satisfied with the way architecture is represented at the Royal Academy. There seems no principle on which exhibits are chosen, and the frames hung seem to be picked out more to give a pretty effect on the walls than to exhibit the best work sent in.

For years the Academicians on the Hanging Committee seem to have arranged the exhibits of architecture with a view to attract the masses, instead of trying to make it representative of the work of the day, and useful to those who take an interest in the art of architecture. . . .

To make exhibits of architecture satisfactory at the Academy, they should, as near as possible, be similar to the illustrations that are put before clients every day by professional men; by that means they would teach and be instructive.

I should consider no exhibit satisfactory unless it gave geometrical elevation and plan, as well as perspective or a photograph of the building executed. I would not advocate large detail drawings, as I think it much wiser to concentrate exhibits; therefore I would say such drawings should be photographed, and a liberal sprinkling of diagrams of the human figure put over them, so that the scale can be seen at once. This is the system the late Mr. Burges employed. . . .

Drawings of stained glass and decorative work should be placed among the painters' work, or all together adjoining the Architectural Room. I think, considering the number of architects who do good architecture compared with the number of painters and sculptors who do good work in their respective branches, the architects cannot complain against the smallness of the space allotted to them."

MR. A. NEEDHAM WILSON.

"The manner in which English architecture is treated by the Royal Academy is indicative of the general indifference to the art in this country. We certainly compare unfavourably with the French nation in their esteem for architecture, an esteem which is fostered not only at the Salon, but in every other way.

I therefore most certainly hold that the present representation of architecture at the Royal Academy exhibitions is unsatisfactory, and I would like to see:—More space allotted; a system of classification into Church, Domestic, Public Building, Sketches, &c.; a lower limit to the number of drawings sent in by each person; a more exclusive control by architects in the selection of works; and lastly, as you suggest, more prominence to geometrical drawings."

MR. THOMAS WORTHINGTON.

"I have always thought the French method of illustrating architecture the true method, and our own showy perspective drawings, so generally prepared by mere experts, as of very little value. I have seen drawings in the Trocadéro Galleries, elevations, plans, and sections which produce a totally different effect on my mind to the pretty drawings which form so large a proportion of the works hung in our own Architectural Room. . . .

An exhibition of photographs from actual executed works would, I think, be of much more use than competition perspectives and drawings of that class which form so large a proportion of the works seen at the Academy."

Mr. H. L. Florence, who says that we may quote his opinion but not print his words *verbatim*, observes that an undue prominence is given in the Architectural Room to drawings "of an unreal nature," *i.e.*, cleverly drawn designs for buildings never intended to be carried out; that too often drawings are well hung merely because they are good pieces of draughtsman's work, though the design is below the average; and that if more prominence were given to geometrical drawings of architectural designs, the exhibition would be of more practical use, and the architect's own handiwork would be more generally seen.

Mr. Honeyman also sends a letter with a request to quote his opinions generally rather than *verbatim*. He thinks there is a want of any obvious principle in selecting and hanging drawings, and that the rule should be, that only drawings of buildings which have been executed should be admitted. As it is well known that the best and most successful architects have little direct interest in exhibiting, he thinks they might be invited to exhibit. He considers that there is only one means of exhibiting architecture in a room, viz., by photographs, which the Royal Academy regulations forbid. If the Royal Academy wish to encourage architecture, Mr. Honeyman thinks that they must give some representation of what has been done each year by means of photographs.

THE ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS:

ANNUAL MEETING.*

Sewage Farm Management.

THE following paper, written by Lieut.-Col. A. S. Jones, V.C., Assoc.M.Inst.C.E., on sewage farm management, was next taken. He said the members of the Association might, with justice, plead that their pressing duties in many other directions made it impossible for them to influence individually the management of a special technical art carried on in the country by a shifting committee of their Sanitary Authority. But they could not shut their eyes to the sanitary and financial mistakes which were now common in many parts of the country, and it might be possible for the Association to act collectively for the information and guidance of all who were responsible in such matters. When they began to realise the fact that land and plant life were the only purifiers of town sewage, it was thought that the supply of educated labour would not fail for the right disposal of sewage, and that it only remained for the engineer to convey the sewage to a level or evenly sloping surface outside the town laid out with carriers, and to leave an ordinary farm bailiff to distribute the liquid at discretion. The consequence had often been that this inexperienced farmer had tried to grow crops in the ordinary manner, and let his sewage as much alone as the committee would allow, with the result that this body came to the conclusion that he was sacrificing the purification of sewage to the interest of his crops, and ordered him to turn his sewage here and there with regard to growing crops; and a sewage marsh discredited the whole principle of sewage farming. Public opinion revolted from the subject, and opened a willing ear to any new inventor who promised to put the difficulty out of mind by some short cut of his own, the latest dodge being always the most popular, although a quarter of a century's experience of hundreds of patents left the Native Guano Company's practice more successful than any of its rivals in the only result attainable without land, *i.e.*, clarification. Success of this kind, moreover, was also a question of educated labour, and the old-established company at Kingston-on-Thames were happy in the possession of a staff of men who, by long practice, could perform the scavenger sort of work necessary to effect separation of the sludge, and to turn the clarified effluent into a tidal river, with the requisite cleanliness of work to satisfy visitors on a show-day, and to earn the company's subsidy. In the same way, with organised labour in scraping solids from iron gratings to burn by destructors, and transporting wet sludge in tank-steamers to the Nore, a system had been established by Mr. Crimp, C.E., and Mr. Dibdin, chemist to the London County Council, which had materially reduced the nuisance formerly created by the discharge of crude sewage at Barking and Crossness. It seemed remarkable that the limited work of clarification should have interest enough to attract the thought and attention required to attain such results, but should interest no one where the question of purification was concerned and thought and attention were required in a much higher degree. There were exceptions, of course, like Birmingham, Nottingham, and Wimbledon, where really skilled managers were supported by wealthy Corporations, and carried out the work of purification satisfactorily, though hampered by too large a proportion of sewage to acreage; but on smaller farms, with more favourable conditions as to area, false economy, and inefficient results, both sanitary and financial, were generally admitted. It was the business of the sewage-farmer to get his crops off as fast as they grew, because the land was wanted for more sewage, which it ought never to get except in the early stages of the crop's growth. He had to bear in mind that the stream of sewage was always coming, and arrange that a sufficient area of his land should be fallow in winter or occupied in summer by young crops, in order that he might have room to spread the liquid intermittently at all times for sanitary reasons. Watchfulness on the part of the manager and his watermen was the essential quality when it was a question of sending off the best possible effluent, and those who understood their business knew that good heavy crops were the best factors in transmitting sewage into such effluent. This good economical result as rent or profit on the farm balance-sheet was, however, not attainable in the first or any given year, owing to the large labour expenses which must be incurred with the double success, and farming committees and managers had not strength of character or fixity of tenure sufficient for reliance on the average result in rent and profit over a series of years. That had been the real bane of sewage farming in England. In numerous instances it had led to starvation in labour and the growth of ordinary bulk of crops with a bad effluent, and often to the destruction of much of the poor crops by untimely doses of sewage in emergencies which had not been foreseen, as well as to nuisance from stagnant sewage and foul effluent. This mode of sewage farming had been introduced all over the country, without a model farm or any provision for the technical education of managers. It seemed strange that so many millions of borrowed capital should have been expended on sewage farms after public inquiries in all parts of the country, and no further questions asked by the Local Government Board or other Authority as to the working of these farms during the last twenty years; but such was the fact, if they excepted the action of the Royal Agricultural Society of England in 1879 into the working of a limited number of sewage farms. He could count on his fingers the self-educated sewage-farm managers who did justice to their charge, and he consequently suggested technical education at model sewage farms for managers and watermen, where a register of qualified persons could be maintained. But the first and all-important measure for improving sewage-farm management was to enlighten the public as to existing evils, and to excite general interest in their abatement; and it occurred to him that a deputation from their Association, jointly with members of the Institution of Civil Engineers, to wait upon some member of the Government might have a good effect in drawing attention to the matter. While writing that paper he was called upon by the War Department to undertake the management and reform of their camp-farm at Aldershot, which had fallen into great disgrace of late years. This was a compliment which he would have accepted more warmly if it had been offered some five years ago, when he was shaking off his old harness at Wrexham, and when the state of things at Aldershot had not reached the present low ebb. But he knew this camp-farm in its prosperous days, under the management of Mr. James Blackburn, and after preaching as he had been doing lately he could hardly refuse this call to assist in restoring its credit if possible. The emergency was very pressing, for the War Department had given notice to their tenant to quit on the 20th inst. (June), and their new manager would take over its charge on that date with no light heart, but with the earnest hope that, in spite of old age, he might yet be able to do something more to prove in practice the sanitary and economical advantages of distributing town-sewage over suitable land.

The meeting then adjourned, the further consideration of the paper being proceeded with on Friday morning, when

Mr. R. Godfrey (King's Norton) said he had taken particular pains to look through the point mentioned by Colonel Jones in his paper, viz., the education and training of sewage farm managers. He thought it would be advantageous to the Association to consider whether, in these days of technical education and scientific knowledge, there should be some form of technical instruction for sewage farm managers. A man might be a very good agriculturist and yet be completely beaten when put upon a sewage farm.

The President proposed a vote of thanks to Colonel Jones for his paper, and expressed regret that he was not present to support the views which he had put forward.

Mr. White (Oxford), who seconded, remarked that there was no doubt Colonel Jones had hit upon a very bad blot in sewage farm management. He took it they were all in favour of the views Colonel Jones enunciated.

The vote of thanks was accorded with acclamation.

Park and Garden Architecture.

Mr. T. H. Mawson, Garden Architect, Windermere, then read a paper upon the above subject. He said that garden-making has been said to be the only art in which the realisation surpasses in beauty the original conception. However this may be, it is true that unlooked-for suggestions and combinations of beauty arise at every stage of the work, each year's growth bringing new revelations of charming groupings of foliage. Considering the immense possibilities open to those who undertake to lay out parks and gardens, very little, if any, advance has been made in the art of garden and park-making, and influenced by the low ideals of the early Georgian period, men ran after what they considered a new discovery, which

* Concluded from last week.

was briefly, that every bit of pastoral scenery was of itself a garden fair. Thus we find that, for the future, imitation took the place of exalted idealisation, the crudest forms in nature being placed upon a higher pedestal than the sweetest forms repurified by man's imagination. That some corrective to the vagaries into which the old school had fallen was required is indeed true, but such a radical change as that brought about by the landscape gardeners of the latter part of last and the beginning of this century is to be deplored. Many of these were men whose abilities were measured by the amount of deception they were able to perpetrate. With such ideals it is not surprising that sham castellated ruins and other absurd excrescences came to be considered as necessary adjuncts to garden scenery.

It was during this depraved period that public gardens and parks began to be more generally recognised as a public need, and, taken as a whole, the parks then made show how low art had fallen. Emancipation from these misconceived methods may be slow, but improvement in some direction is now called for; it is, in fact, necessary to make parks and gardens more worthy of the name, by introducing more of the method and spirit pursued in the days when the best English art work was produced. In a park or garden, invention and intention should once more be made apparent; and it should be a place where the wealth that produced it should not be altogether lost sight of; its beauty and ornamentation should be according to man's conception and forethought.

Of course, the requirements of the public park to-day are not the same as those which had to be incorporated in the old gardens, but the spirit which actuated these old designers might be imported into the modern work, and so make our parks in some reasonable degree on a level with our boasted modern art culture.

To attain to the excellence of this old work it is necessary that everything, small or great, be designed in harmony; that everything, whether building, planting trees, shrubs, expanse of water, grass lawns, &c., be designed or planned with due consideration to its fitness, proportion, and balance, without incongruity or discord. To attain this completeness and unity of the whole implies that to a knowledge of architecture, the chief essential, must be added a study of the technics of good gardening and of arboriculture.

The true park must, like most other inventions, rest on the foundation of good planning, worked according to whatever characteristic is to have predominance, whether seclusion or recreation, or an equal combination of both. On level ground it is comparatively easy to shut off the various recreation-grounds into proper compartments, the eye never being high enough to obtain a panoramic view, but in dealing with a site with considerably varying levels much would depend upon the disposal of these features. The trampled grass of the cricket-crease, the cinder-path of the cycling-course, and the excited noise of the footballers, are disturbing elements which require careful handling, but, as a rule, everything which is calculated to induce physical recreation should receive careful attention. The requirements of the surrounding population would, of course, decide what to go in for, but the following are specially worthy of consideration:—Lake for boating and bathing-ponds; children's playground; cycling-tracks; football-grounds; cricket-creases, bowling-greens; archery-courts; quoit-grounds; gymnasiums for both sexes; tennis-lawns.

Mr. Mawson gave alternate designs which he had prepared for the laying out of the East End Park, Wolverhampton, which he regards as a good specimen of a typical site for a modern park, well calculated to suit the requirements of the surrounding population. Although too much stress, he said, cannot be laid upon the planning or framework of the public park, to clothe and adorn with beauty each respective part, and still preserve the unity of the whole through all details with thorough completeness is "taste's important task." To accomplish this in any degree worthy of the end in view, we must study and idealise nature.

It is not purposed to condemn entirely landscape gardening as at present practised, but to advocate more the judicious selection and association of the forms of nature, and to dispose them according to artistic conception; this is quite another thing to slavishly copying nature. Here the whole skill of the nature lover finds pleasure in turning her weakness into strength and her crudeness into grace. Then there is the touching-up of nature, or helping nature to speak the truth. This is a phase of park designing which always requires careful thought, as nearly every site possesses different natural features.

There may be cases in which the foregoing touching-up principle is the only possible one to adopt, but even here it is to a great extent possible to keep clear of the make-believes which characterise some park-makers' work. Take a case in point, say a piece of land, 60 acres in extent, mostly old pastures and meadows divided by hedgerows in which there are a few old trees, the land for the most part of very undulating character, a stream running through the ground, the soil fairly good, ranging from black to brown loam, lying on marly clay; the ground largely surrounded by factories and coalpits, the atmosphere for a town fairly clear. The requirements are—1, Lodge and two main entrances, and two foot entrances; 2, lake as large as possible for boating; 3, cricket-ground; 4, Tennis-lawns and bowling-greens; 5, main drive; 6, ample walks and roads for promenading. The sum to be expended, 6,000*l.*, inclusive of keeper's lodge and boundary fence. The total sum to maintain annually not to exceed 500*l.*, half of which is to be supplied out of the rates, the remainder to be raised in revenues from the park in boat-hire, &c.

A safe estimate for the erection of the park-keeper's lodge and entrance, with the additional entrance, would be 1,000*l.*; the fencing would probably not be less than 1,000*l.*, and the two smaller entrances 250*l.*, leaving 3,750*l.* to expend upon laying out the park.

One of the most important things in the laying out of a park of this description, especially in a populous neighbourhood, is to obtain as large a lake as possible. It would require an area of not less than 12,000 yards super of gravel walks and spaces, which estimated at 2s. 6d. per yard, exclusive of excavation, would cost not less than 1,500*l.* Then there is the cricket crease. If more than one site suggest themselves, select the one nearest the boundary road, so as to allow of a separate entrance. The same should be done in respect to the children's playground, but choosing the most populous side of the park. Tennis lawns and bowling greens can be located anywhere, as they are not disturbing elements in any park.

The main drive should have something of directness about it, and not be less than 20 ft. in width. To the east, or from whichever quarter the winds of the district were most prevalent, the planting should be dense, preferably of Scotch fir, if it would grow. The side bounded by factories and mines would require tall growing trees to block out these surroundings and give an aspect of quietude to the Park. At other places, where the traffic was likely to be great, the sides of the hills would be planted with masses of native trees, such as beech, elm, sycamore, chestnut, cherry, crab, thorn, with undergrowth of common holly, yew, elder, dogwood, mahonia, and privet. In the dells groups of rhododendrons might be introduced. The lake margin would be planted at intervals with masses of silver-leaved and other willows, alders, &c. If after this there was 400*l.* or 500*l.* to spare, it could be expended on a simply-designed erection placed at a point convenient to the lake and drive, and towards the centre of the park if possible. This could serve the purpose of refreshment-room, rain-shelter, cloak-room, with conveniences. If possible to fill the other conditions, the building might be placed on the edge of the lake and serve also as a boat-house.

In such a park as the one just described, everything of a cast-iron or tin tabernacle nature should be avoided. There would be no bedding-out or display of foreign shrubs of the monkey-puzzler order, nor would there be any notices warning people to keep off the grass; every pleasing natural feature would be retained, but its picturesqueness enhanced wherever possible, and everything unsightly blocked out and hidden.

In the foregoing we have the two ideas which are possible without violating the canons of good taste; "the first is made on purpose to please," the second is nature's work adapted to the requirements of man with as little interference as possible.

Mr. Mawson next described the landscape park, of which he cites as an example Hanley Park. This is a park of some eighty acres in extent. Very little of the ground was in its natural state, being partly covered by pits, mounds, refuse for ironworks, brickfields, and potteries. None of the land was pastured, a lake had to be made, a pavilion provided, and also ample terraces for promenading. Mr. Mawson suggested that small gardens and open spaces should invariably be treated in an architectural and formal manner, quietness of style should be their chief characteristic.

In small parks of five to ten acres, fountains and architecturally treated ponds may often be worked in with good effect. A wealth of flowers arranged in formal beds is always appreciated in small parks. Lawn-tennis courts and bowling-greens, within quaintly clipped hedges, always look well. Colonnades, parterres, avenues of pollarded limes, give grateful shade. All walks should be broad, especially on terraces, never less than 10 ft. on a terrace, and promenade walks never less than 20 ft. Shelters and band-stands should be specially designed to harmonise with other features in the park; high keeping and primness should always be associated with small parks.

As a rule, parks and gardens of ten to twenty acres should not be cut up by drives, especially if in a district with a large working-class population.

Fine broad avenues are always appreciated. For this purpose limes, planes, elms, beech, or sycamore, are the best. The width of an avenue should never be less than 45 ft., and the trees should never be planted closer than 35 ft. apart. Of the things to specially avoid Mr. Mawson enumerated unreality and pretence in design; narrow walks and drives; the arrangement of football grounds in the centre of a park, unless of considerable size; all appearances of jerry in construction and veneer in ornament,; bad drainage; narrow belts in planting; small, specky plantations, &c.

Most of the foregoing suggestions have been urged time and again by the writer when dealing with Parks Committees or Corporations, but in reply it has very generally been stated that the views here expressed show too great a confidence in the art perception and good feeling of those who generally patronise public parks, such replies being very often backed up by numerous instances of destruction, especially of verges and lawns, and in other cases of trees and flowers. So firmly have some Committees been impressed with this idea that it has led to all sorts of bad arrangements in parks with which the writer has had to do. At Wolverhampton, for instance, a walk is to follow the margin of the lake, because of a fear lest any turf or plantations which ran down to the water's edge should be destroyed. After considerable study of the subject, the writer has come to the conclusion that the public value most things in proportion to the amount of earnest work put into them by the designer and craftsmen working under him. Where destruction takes place it is very often, "though not, of course, always," because the thing destroyed had little right to exist, or otherwise because the planning was so bad that destruction was but the natural sequence.

Trade Effluents.

Mr. W. Spinks, Assoc. Mem. Inst. C.E., of Leeds, Lecturer on Sanitary Engineering, Yorkshire College, Victoria University, next read a paper on "Trade Effluents." He said he did not propose to lay before them any particular methods of dealing with trade effluents *per se*, but rather to submit some considerations in those cases where they do discharge into existing sewers, or where it might be desired that they should discharge into any contemplated system of new sewers. The first point that presented itself was—what right had manufacturers to have their effluents connected with the public sewers? Many of them, by long user, had acquired a prescriptive right, but the bulk of them, no doubt, would be governed by existing legislation, which, to say the least of it, was delightfully vague. Having quoted the special clause, dealing with manufacturers' refuse, of the Rivers Pollution Act, 1876, Sec. 7, Mr. Spinks remarked that the law being as it was, they must do the best they could with the conditions that present themselves to them. First of all, they must make sure in formulating any new scheme of sewerage, what were sewers and what streams. In many places watercourses had been culverted, and to them had been connected, besides wastes for manufactories, drains from houses. During 1894 proceedings were taken by the Mersey and Irwell Joint Committee under the powers of their Act of 1892 (ch. cxci.) against a manufacturer for polluting a stream, when it was proved in evidence that the stream was culverted, and that it received the sewage from two or more houses, and it was, therefore, held at Quarter Sessions that it was a sewer, as defined by the Public Health Act, 1875, and that the proceedings should have been instituted against the Sanitary Authority. This decision was of importance to all authorities and their engineers. The quantity

The Courtyard, Earlshall.

of domestic sewage varied, according to the class of property in the district and the habits of the population, from ten to forty gallons per head per day, and the maximum quantity discharged at any given period of the day could be approximately ascertained, but not so the quantities of trade effluent. The magnitude of this portion of the question would be understood when they learnt that an ordinary-sized bleach or calico-printing works dispersed each working-day 500,000 gallons of effluent water. Domestic sewage was never very variable in its constitution, but if trade effluents were added there would be noticed during its flow striking changes both in its colour and in its odour, according to the kind of waste discharged from the manufactories. In places where the textile, tinctorial, and chemical trades were carried on they found sulphuric, hydrochloric, and nitric acids, alkalies, soap-lees, solutions of iron, zinc, tin, alum, copper, chrome, antimony, and arsenic, waste dye liquors, spent dye wares, glue, size; dressings, lint, fleece, fibre, and waste tin solutions. In districts where hardware, iron-wire, and kindred trades were prevalent, they found the sewage holding in solution iron in considerable amount, derived from pickling iron-wire, also containing salts of iron, as ferrous chloride. Where trade effluents were discharged into the sewers it was essential, if the process of treatment was to have justice done to it, that manufacturers must treat the sanitary authorities fairly, and must discharge their effluents equally, as far as possible, and not hoard up their strongest liquor for despatch during the night or on Sundays, unless they were desirous of the authorities coming within the clutches of the River's Board, which was an experience more honoured in the breach than the observance. The question of the treatment of combined sewage was essentially one to be settled by chemists and bacteriologists, leaving the engineer to design the necessary works requisite for the process. Having quoted the experience of Nottingham, Bradford, and Nuneaton, Mr. Spinks said it seemed clear that in dealing with combined sewage the engineer would be called upon to provide ample tank accommodation, and how to determine their capacity was likely to baffle his ingenuity, owing to the difficulties, as had already been pointed out, in ascertaining the daily flow for any constant period. It was well known that, for the purposes of sewage purification, the Local Government Board insisted that there should be, as a minimum for filtering purposes, one acre of land to every 2,000 persons, their opinion being that at present there was not a testimony sufficiently unanimous as to the efficiency of any other system of purifying sewage. In conclusion, he said he was aware that feeling ran rather high in many districts upon the equity of levying rates upon the manufacturers for the purposes of sewerage and sewage disposal works when they were not permitted to avail themselves of such sewers and works, but were called upon to expend their own capital in providing plant for treating the effluent upon their own premises. The whole question was a very delicate one, and that was hardly the place or the time to discuss it, the parties to determine it being the communities affected, and the sanitary authorities, as engineering did not enter into this stage; but before any change could take effect it appeared clear that alterations would have to be brought about in the existing laws, both as to rating and river pollution, and this would necessarily be a very slow business in the present state of the Parliamentary workshop. There was just one other feature that must not be lost sight of, and that was the constant changes which were being brought about by new discoveries in the chemical and mechanical sciences affecting the processes carried on in the various industries, and which were all tending to lessen the obnoxiousness of the polluting effluent, and often result in discovering elements of value in the bye-products, which render their recovery simple and profitable.

Mr. C. Jones, Ealing, proposed a vote of thanks to Mr. Mawson and Mr. Spinks for their papers.

Mr. Clarson, Tamworth, seconded the vote of thanks, which was accorded with acclamation.

Subsequently a visit was made to Messrs. Oates & Green's works—the brick-works at Horley Green-road—and the pipe works at Ellen Royd. Messrs. Oates & Green entertained the members to luncheon, after which the party drove to the Corporation Waterworks at Castle Carr, which were described by Mr. J. A. Paskin, C.E., the waterworks' engineer. On Saturday, June 29, the members visited the stone quarries of Messrs. Brooke & Son, the "Silex Brand," the new markets, and other public works in Halifax.

OPEN SPACES.—The Chancellor of the Diocese of London has agreed to issue a faculty for placing the churchyard of St. Leonard's, Shoreditch, under the control of the churchwardens in so far as may be necessary for laying it out as a public garden, and so maintaining it, subject to the control of the Consistory Court. The faculty will also provide for an enlargement of the graveyard by some land to be given by the London County Council in exchange for a small portion of the graveyard which the Council seek to acquire for their new street from the church to Bethnal Green.

Illustrations.

ST. ANN'S CHURCH, WANDSWORTH.

THE original church was designed by the late Sir Robert Smirke, and opened in the year 1824. On plan it is a simple parallelogram, measuring 9 ft. by 57 ft. internally and having a deep gallery on three sides. At the east end there is a kind of elliptical bay-window, in which stands the altar, and there is a small vestry on each side of the said bay. The view shows the proposed new chancel, with a chapel on the south side, having an organ-chamber above, and vestries for the clergy and choir on the north side. The chancel is groined in plaster. The architect for the new work is Mr. Ed. W. Mountford.

FRIEZE, TOWN HALL, SHEFFIELD.

THE portion of the frieze illustrated is on the left-hand side of principal entrance of the new Town Hall, Sheffield, and represents the less skilled labour of the district. On the right-hand portion will be represented the crafts and arts of Sheffield; this portion we shall probably publish in a future number.

The projection of the figures varies from 2½ in. at the top, to 1½ in. at the feet of figures to accommodate the angle of site, as exemplified in the best Greek work, *i.e.* the Parthenon frieze; and has been modelled from the front or surface plane, this, in Mr. Pomeroy's opinion, being the true plane of all glyptic art, the opposite to the building up, or back plane of plastic decoration. The entire length of the east portion of frieze is 36 ft. by 3 ft. 5 in. high.

EARLSHALL, FIFE.

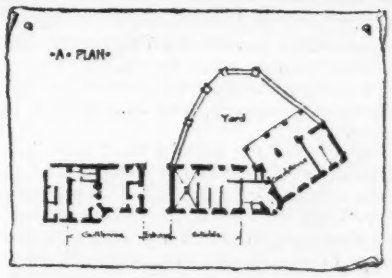
WE give a general drawing of this interesting house and its surroundings, by the architect, Mr. R. S. Lorimer, of Edinburgh, who has been engaged in restoring and adding to it, and also illustrations of the hall, and of the ceiling of one of the rooms from photographs. We also append, as engravings, a plan of the house and a view in the courtyard.

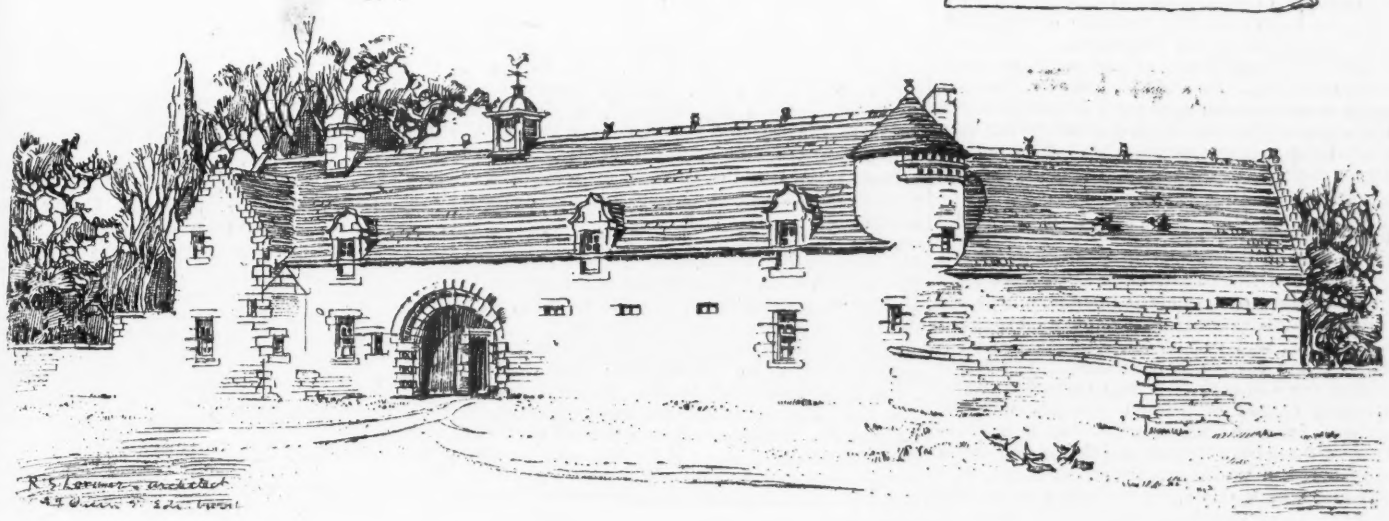
The double-page lithograph, showing the house and garden as now treated, is from a drawing at present in the Royal Academy.

The house, though not a very large one, is of considerable interest in a historical sense. The following information in regard to it is taken from a paper read by Mr. Lorimer on the occasion when the Edinburgh Architectural Association,

EARLSHALL FIFESHIRE

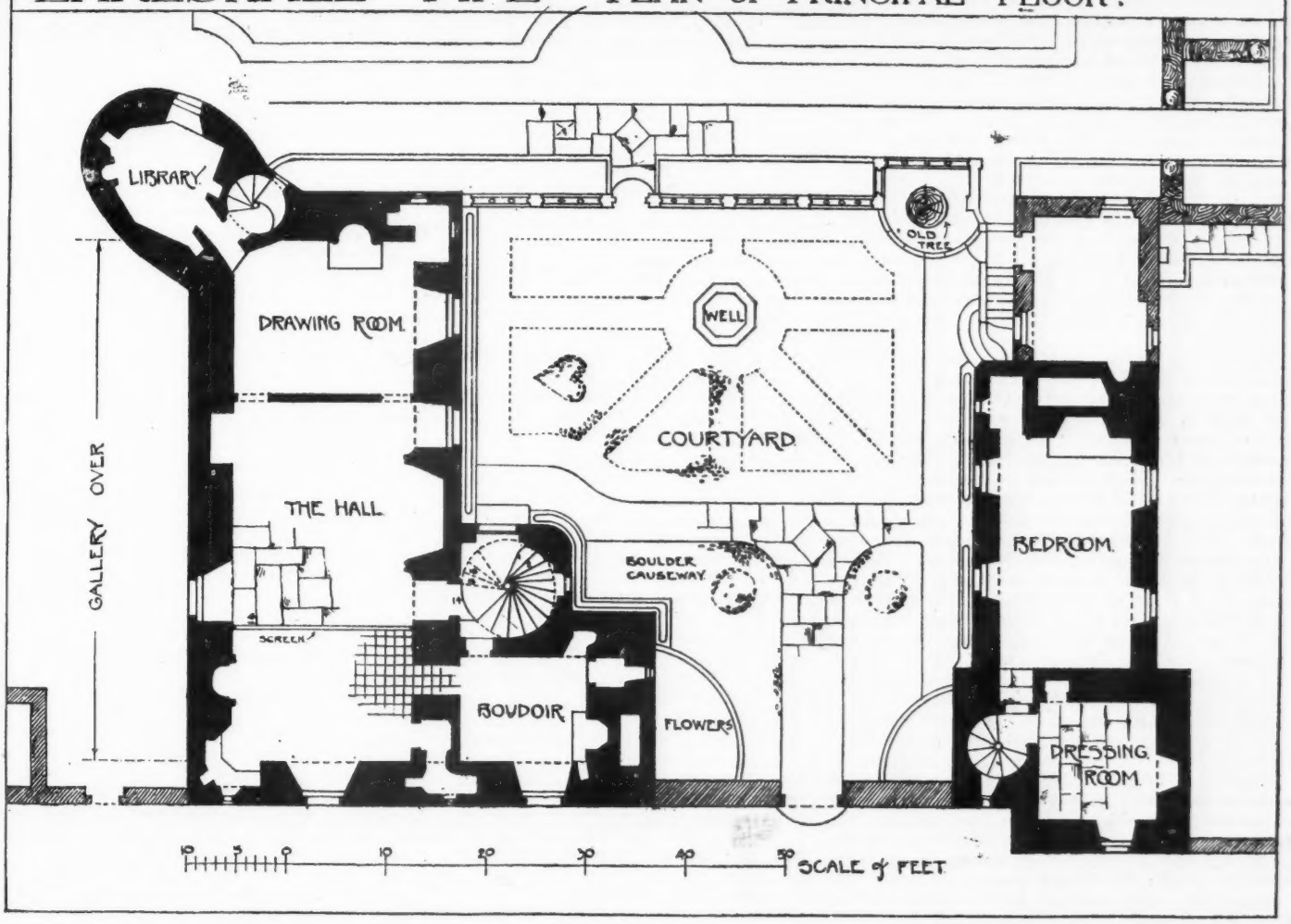
VIEW OF GATEHOUSE AND STABLES FROM THE NORTH WEST





R. S. Lorimer, architect

EARLSHALL · FIFE PLAN OF PRINCIPAL FLOOR.



by permission of the owner, paid a visit to the house.

"The ancient Earls of Fife are supposed at one time to have had a castle in the neighbourhood; hence the name. The first trace to be found of the name of Earlshall is in a charter of James IV., dated March 28, 1497, whereby the King bestows anew on Sir Alexander Bruce, 'the lands of Earlshall and Prusk.' It is of his son Sir William that it is recorded on his tombstone: "Heir lyis of al piete ane lantern bricht, Schir Villyam Bruce, Erlshal, Knycht.'

It is the fifth laird whose name is associated with the building of Earlshall. He succeeded about the year 1580 and was twice married, first to Elizabeth, daughter of Sir Andrew Wood, of Largo, who appears to have died early, as Sir William's name is most frequently seen in conjunction with the initials of his second wife, Dame Agnes Lindsay, the device of two intertwined hearts bearing the initials 'W. B., D. A. L.' occurring many times in the decoration of the house. Sir William had much reason to be grateful to his lady, for it was apparently with her money that the Earlshall as we now see it was built and garnished.

Towards the end of the eighteenth century, the estate passed into the hands of the Hendersons of Fordel, and was sold in 1825 by Sir R. Bruce Henderson, to the late Colonel Long, of Bromley Hill, Kent. He, however, never lived in the place and was allowing the house to fall into utter ruin, when it was sold by his representatives a few years ago to the present proprietor, and it could not have fallen into the hands of anyone with a keener appreciation of its charm. It is needless to describe the state of dilapidation and decay into which the house had fallen, after being left for more than seventy years, not only to the elements, but to the tender mercies of every trip and Sunday-school treat in three or four counties.

The plan of the house is a development of what is called the L plan, that is two buildings at right angles to each other, with the main staircase in a tower in the internal angle, and in this case there

is also a large tower at the north-east angle corner. The staircase tower is carried up to the top, and there finished with a small turret, which gives access to a platform roof, commanding a fine view of the surrounding country, with St. Andrews in the distance.

In continuation of the western front there is a high enclosing wall, connecting the main house with some smaller buildings which are locally known as 'Dummy Daw's House,' the whole forming a courtyard, in which the old draw-well is placed, and enclosed on the east side by a low wall and balustrade, and this side of the court-yard opens directly into the garden. Unhappily all traces of its design had disappeared, the walls alone remaining. An attempt, however, has been made to lay it out on what were probably the old lines, some of the old Scotch gardens having been studied for this purpose. This—of having the garden close to the house—was the old traditional arrangement.

Though not large, the house contains several notable rooms, the most interesting of which is the gallery on the second floor, measuring 50 ft. by 18 ft., and some 13 ft. high, and containing a painted ceiling of very curious design. This is a wooden boarded ceiling taking the form of a flat semi-ellipse, and comes down on to the walls without any cornice or moulding. The upper part of the wall is divided into compartments by arcading formed of painted pilasters and flat arches. In each compartment was a motto—most of these have long since disappeared, one of the few remaining informs the reader that a 'nice wyf and a back doore, oft maketh a riche man poore.' The ceiling itself is divided into upwards of three hundred panels, alternately square and circular, and joined by scroll work. The circular panels are filled in with heraldic devices, the arms of Bruce of Earlshall being depicted in the centre, and immediately around are grouped shields bearing the cognisances of the families with which the Bruces were allied matrimonially, and to the west, the arms of many of the noble families of Scotland. On the eastern portion are seen mixed up in the most naïve confusion, the coats of many notable characters in both sacred and profane story—'Arthur of Brittayne' keeping strange company with 'Judas Maccæbeus'; 'David, King of Israel,' jostling 'Hector, Prince of Troy'; figures of the Cardinal Virtues are also represented, decked out in gay seventeenth-century costume. The source of all this inspiration was found to be Sir David Lindsay's heraldry, which is preserved in manuscript in the Advocates' Library, and was a few years ago reproduced.

The square panels are filled in with representations of animals; the source from which these were taken has not yet been traced, but there is little doubt they were copied out of some mediæval 'Bestiary,' of which examples still exist in the Bodleian at Oxford, and elsewhere. They were the precursors of our natural histories of to-day, but many of the animals represented must have had their origin in the designer's fertile imagination, as they are such as never were on land or sea. The decoration, which is in black and white distemper, is altogether a piece of seventeenth-century fancy work quite unique in its kind. Its preservation was a task of some difficulty, owing to the deplorable condition that the roof of the house had been allowed to get into. It was only where the work was clearly legible that it was touched—where the devices in the panels were gone altogether no attempt has been made to replace them.

The ceiling in a bedroom shows decoration of a similar character. This is a flat ceiling formed of massive beams with plain boarding. The space between the beams is divided into panels by scroll work, and with a picture of an animal in each alternate panel; the beams themselves having very roughly painted on them, in black on white, stars, flowers, and conventional meanders.

The other ceiling of interest in the house is that in the small panelled parlour on the first floor, which unlike the others is in colours, which must once have been bright. It is a flat ceiling, roughly boarded, and to a large scale are painted the arms of Sir William Bruce and his lady.

It is curious in a house of this date to find that it does not contain any enriched plaster work, a form of decoration in which some of the old Fife houses are very rich.

A very elaborately framed and panelled oak door, leading from the gallery to a small bedroom at the top of the north-east tower, is worthy of note.

The 'cat hole' is to be seen cut through the lower panels of many of the doors. This seems to have been a common custom, and sometimes the hole was provided with a little sliding shutter on the room side of the door. The use of these holes apparently was to enable the cat to hunt the house from attic to basement, whenever the humour seized her.

The fireplace in the stone hall is also worthy of note, as it has a granite lintel 11 ft. long by nearly 2 ft. deep."

MAGAZINES AND REVIEWS.*

THE *Art Journal* devotes illustrated articles to the work of Mr. Dendy Sadler and the memory of Caldecott; the former by Mr. F. G. Stephens, the latter by Lady Dilke. Miss Hepworth Dixon contributes also a well-written and thoughtful article on the deceased French painter Monticelli, whom perhaps she rather overrates. "The Home of William the Conqueror" is the title of a supplement article on Caen and its architectural monuments.

The *Studio* publishes reproductions of some of M. Helleu's dry-points, and a good article by Mr. Wedmore on "The Art of the Pastellist"; also an "interview" with Mr. H. S. Tuke, with illustrations from several of his works.

The *Atlantic Monthly* contains two articles of special interest to our readers; one is "An Architect's Vacation," by Mr. R. S. Peabody, No. I. of a series, and which deals with "Rural England." The writer shows a correct appreciation of the characteristics of English county architecture, both of the mansion and the cottage type, and it is of some interest to notice how its characteristics appear to the eye of an American architectural visitor. The following passage is worth quoting:—

"When we forget the poor man and his surroundings, there is little left in England that is not beautiful. 'Long and low' are words that best describe the elements of English building design. The long, low walls of the cathedrals offer striking contrasts to the masses of masonry that tower above such towns as Beauvais and Amiens, while the minute entrances at Wells have little relationship with the gorgeous portals of the great French churches. Castles like Penshurst, Stokesay, and even Warwick, have the same English qualities, and you look in vain among them for the snap and dash and fire of the French châteaux, such as Pierrefonds or Falaise or Azay-le-Rideau, with their conical towers and many-vaned spirelets. In the same way, also, the cottages that throughout England blend so softly and so picturesquely with the peaceful landscape have widespread, home-like roofs, and lie close to the ground, so close that you step down into most of them."

The other article we referred to is one by Mr. J. M. Ludlow (also to be continued) on "The Childhood and Youth of a French 'Maçon,'" an article founded on a French publication which appears to be in the main autobiographical. The same number contains the continuation of an exceedingly interesting set of articles on the physical conditions and conformation of the planet Mars, and the probable facts as to the "canals" on the planet, by Mr. Percival Lowell.

Harper contains an article by Mr. Royal Cortissoz on "Some Imaginative Types of American Art," dealing chiefly with the work of Mr. Dewing and Mr. Tryon, two painters whose works are not much known in England. Among the illustrations given, that from Mr. Dewing's "A Summer Evening," with the three women standing in thoughtful attitudes amid a twilight landscape, is beautiful, but it is essentially French in sentiment and composition. American art is an echo of some of the finest phases of modern French art, but only an echo. Mr. Julian Ralph contributes an article on "The Garden of China," with illustrations by Mr. C. D. Weldon. Mr. Thorpe's article on "The University of Pennsylvania," is both interesting historically, and for its illustrations of some of the university buildings, old and new.

The *Nineteenth Century* contains an article by Mr. Schooling on "colour-music," written two years ago, long before the recent demonstrations. Mr. Schooling does not make the mistake of supposing that we can go about and invent and perfect a new art off-hand; he quite recognises that it is a matter of slow development, but the suggestions which he makes are much more on the right track than those of Mr. Wallace Rimington. His idea of a colour-instrument is of a succession of vacuum tubes or chambers which could be illuminated by means of a key-board, the action of which would pass electric currents through them. There is something to think about in that. The author avoids the mistake of pretending to divide colour into a scale in any way corresponding to the musical scale. Some kind of scale or ratio there would probably have to be, to produce formal works of art, but there is no need to imagine it as having any proportional resemblance to the musical scale. The article is worth reading. Prince Kropotkin gives in the same number one of his useful summaries of "Recent Science," of which the most interesting portion to our readers is that which is concerned with the important result which antarctic exploration might have in giving opportunity for additional pendulum measurements of the configuration of the earth, the form of which is now believed to be less symmetrical than orthodox geodesy has assumed.

To the *Century* Mr. James E. Keeler contributes a "popular" scientific article on "Picturing the Planets," accompanied by reproductions from drawings of Mars, Jupiter, and Saturn. He gives one or two examples, showing emphatically how important an element the advance in the size and magnifying power of telescopes has been; the large telescope in the Lick Observatory in one instance entirely contradicting the evidence of a smaller instrument as to the outline of Saturn's shadow on his rings. In spite of the numerous difficulties, not only in constructing but in using instruments of very high powers, we do not believe that the limit in telescopic power has been reached yet. The series on "Old Dutch Masters" illustrates Terburg, with some rather meagre remarks, and an engraving. A Japanese "Life of General Grant," with eleven reproductions of the original Japanese illustrations, is a contribution of rather curious interest.

In the *Gentleman's Magazine* Mr. E. Johnson's record of "A Drive from Paris to Nice" is an interesting topographical sketch of the country passed through, and may suggest a new experiment in holiday excursions.

Scribners' includes what we might almost call "the usual article" in American magazines on designs for posters, a subject we are getting rather tired of, though it must be admitted that there seems to be an almost endless variety of illustrations to choose from. The direction in which the progress of "improvement" in this class of design has moved is illustrated, with what seems to be an unconscious and unintentional satire, by the placing on opposite pages Fred Walker's fine design for the "Woman in White" and an unpublished poster design by Mr. Aubrey Beardsley, one of the most hideous things we have ever seen on paper. The "American engravers" chapter deals with the work of Mr. Eldridge Kingsley, one of whose engravings—of a landscape—a work of much feeling and delicacy, forms the frontispiece to the number.

The *Fortnightly Review* includes an article by Mrs. Pennell on the French exhibitions of the year, of the usual pessimistic character. Art criticism seems to consist now in sneering at all painters except two or three who hit the critic's own pet ideal. There must be a reaction from this kind of thing before long.

In the *Contemporary Review* Mr. A. Wollaston Hutton writes an article in recommendation of the establishment of a National Opera House, urging that the Government should set apart a site and erect a new building out of public funds, to be leased at a nominal rent to the London County Council, who should maintain the building out of municipal funds, and sublet it under stringent conditions, but at a nominal rent, to operatic managers. While thoroughly sympathising with the idea of a National Opera House, we can only remark here that the suggested site—the vacant land opposite the Horse Guards—would be a mistake, just as Mr. Mapleson's opera house on the Embankment proved to be; it is too far from the best residential districts. A situation like that of the Queen's Hall would be more to the purpose.

Longman's Magazine reprints Sir B. Richardson's address on "Past and Ideal Sanitation," delivered before the Sanitary Congress at Manchester in April last. There is a good deal (as the title half implies) that is somewhat Utopian in this article. The suggestion about continuous terraces on the house-tops, and their arrangement and connection, for instance (page 287), however attractive, is perfectly impracticable, unless all the houses were first built over again with special constructive preparation for it. Unfortunately, "ideal" sanitarians do not hamper themselves with considerations as to constructional conditions. "Vernon Lee" contributes to the same maga-

* The object of these notes is to point out anything in the contents of the current magazines which is of special interest to our readers, with occasional brief criticisms on the views expressed in such articles. When a magazine which has been sent to us is not noticed, it is because that number contains nothing that it is within our province to comment upon.

zine a charming little article on "Old Italian Gardens."

In the *Pall Mall Magazine*, Mr. Grant Allen's third paper on "Evolution in early Italian Art," dealing with the subject of "The Annunciation" and its treatment by successive painters, is interesting and well illustrated.

The most interesting articles to us in the *Engineering Magazine* (New York) are those on "Power, Light, and Heat in City Blocks," by Mr. J. E. Talbot, suggesting the combination of electricity and steam, on "A Wooden Stove-pipe for Conveying Water"—a very large one, the construction of which is illustrated by numerous engravings; and on "Heating and Ventilating Tall Buildings," by Mr. L. Allen. This last is at present a peculiarly American problem, but to some extent become an English one also.

The *Antiquary* contains an article by Mr. F. Haverfield, "Quarterly Notes on Roman Britain," and an illustrated article on "Some Mediæval Closing-rings and Knockers," but the illustrations strike us as being rather well-known examples.

The *Reliquary and Illustrated Archæologist* contains an article by Mr. Leader Scott, on "The Roman Thermæ of Fiesole," with a plan and two photographs.

The fifth number of *Royal Academy Pictures* concludes the set, a very good pictorial *résumé* of the contents of the exhibition.

The *Monde Moderne* gives some personal impressions of "China," and an article of some interest on old Parisian streets and their associations and the history of their names, under the title "A Travers les Rues de Paris."

We have received No. 22 of the monthly issue of *Punch Pictures*, which includes some admirable specimens of the art of Charles Keene, and some old favourites by Leech, which will be remembered and welcomed again by many. It is the work of these two deceased artists, and an occasional (too rare) bit of Richard Doyle, that gives the real value to this re-issue: that of Keene more especially, who was the finest genius *Punch* ever had on his artistic staff.

KEW BRIDGE.

THE Surrey County Council have, unfortunately, at last been obliged to recognise that the present condition of the road bridge over the Thames at Kew is such as to necessitate the building of a new structure, and they have consequently just made an important communication to the Finance Committee of the Middlesex County Council in reference to this matter. It is proposed that committees of the Surrey and the Middlesex Councils should meet for the purpose of coming to some arrangement regarding the proportion of the cost each of these bodies should subscribe towards the rebuilding of the bridge.

It appears that in 1757 one, Robert Tunstall, applied to Parliament, and ultimately obtained permission to build a toll-bridge over the river at this site, to supersede a ferry owned by himself, and which, up to this date, was the only means of communication between the villages of Kew and Brentford. The influence of barge-owners and others interested in the navigation of the river at this point caused certain privileges to be inserted in the Act, and it was not until the following year that the sanction to construct a bridge was obtained. The structure which was then erected, consisted of eleven arches, the seven central ones being composed of wood, and the remainder of stone; but this bridge only appears to have lasted about twenty years, as, in 1782, we hear of a son of the builder petitioning Parliament for authority to reconstruct it, and, having obtained the necessary permission, he commenced the building of the now existing bridge.

This bridge, which is only 24 ft. wide between the parapets, took some six years to construct. It consists of seven stone arches, the central one having a span of 66 ft. The span of each of the adjoining ones is 55 ft., and that of the two others on either side is slightly less. There are also several small arches on the low ground of the Surrey shore. As far as architectural appearance goes, the bridge is one of the most beautiful on the river; but the rise is too great, and consequently the approaches too steep, for the class of vehicular traffic it is now necessary to accommodate. It may be added that the arches are too narrow, especially considering the strong tides at Kew, to be convenient or quite safe for the water traffic.

For many years this bridge remained the property of the builder, but was at length sold by him for 22,000*l.*, and continued in the hands of private individuals until 1872, when it was bought by a joint Committee of the Corporation and the Metropolitan Board of Works. The original claim as compensation in respect of tolls was at this date some 74,000*l.*, but the owners ultimately agreed to accept 57,300*l.*, and the purchase being completed the bridge was thrown open free to the public.

That the demolition of this bridge must come about soon we had long foreseen; but it is melancholy to think that there is probably not the least chance of its being replaced by anything half as picturesque.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring Gardens, Sir Arthur Arnold, Chairman, presiding.

Jobbing Works Schedules. — The General Purposes Committee brought up the following report, the recommendation being agreed to:—

"On June 19, 1894, the Council resolved that a schedule of prices should be agreed upon between the Works Department and the Architect and Engineer, upon which, in respect of jobbing works, the estimates, measurements, and certificates of the Architect and Engineer should be based, and that the schedule should be revised periodically. On February 26 we reported that a schedule of prices for jobbing works to be done under the supervision of the Architect had been prepared, and the Council resolved that 12½ per cent. should be allowed above the schedule of prices for such works. On March 26 we reported that a schedule of net prices for hoarding and shoring works had been agreed to by the valuer, the Architect, and the Manager of Works, the prices being the same as those charged under the last contract for similar work. We have now to report that an agreement has been arrived at as to the schedule of prices for works carried out under the supervision of the Eegineer. It has been suggested that the rate above the schedule of prices at which these works should be carried out by the Works Department should be provisionally fixed at 10 per cent. Before these jobbing works were handed over to the Works Department, they were done by contractors, one of whom received 7 per cent. and the other 8 per cent. above the schedule prices. The reasons assigned by the Works Committee for the increase of an average of 2½ per cent. on the charges of the last contractors are (1) that since the last contract was entered into on January 1, 1893, the Council has laid down a schedule of hours of labour and rates of wages which contractors have had to adopt, and which are, of course, observed by the Works Department; and (2) that these works, which extend all over London, are carried out by the Works Department from one centre, whereas, when done by contractors, London was, for the purpose of these works, divided into two districts. The Works Committee suggest that the arrangement should be in force during the current year, viz., from April 1, 1895, to March 31, 1896, in order that all accounts for the year may be rendered on the same basis. We concur in the suggestions of the Works Committee, and recommend—

'That the rate above the schedule for prices of jobbing works to be carried out under the supervision of the engineer be provisionally fixed at 10 per cent. above the schedule of prices in the last contract for similar works, the arrangement to be in force during the current year, namely, from April 1, 1895, to March 31, 1896.'"

Proposed New Street, Holborn to the Strand.—Mr. Beachcroft asked the Chairman of the Improvements Committee whether the scheme for the new street between Holborn and the Strand would be matured in time for the issuing of the necessary Parliamentary notice this year.

Mr. Goodman said he could not say. The project was a very important one, and the committee desired to have full time to consider it. They had already instructed the officers to bring up plans of all the schemes that had been proposed in the past, and to indicate which in their opinion was the best one.

Mr. Emden, later in the sitting, asked when it was proposed to deal with the unsanitary area near the Strand known as Clare Market.

Mr. Bruce said the matter would be considered in conjunction with the proposed new street.

After transacting other business, the Council adjourned shortly before six o'clock.

METHODIST BUILDINGS, CAMELFORD, CORNWALL.—A new chapel is being built at Camelford in connexion with the United Methodist Free Church. Messrs. Wise & Wise, of Launceston, are the architects. The contractors are Messrs. Hooper & Dennis.

SCREEN, ST. JOHN THE BAPTIST, KENSINGTON.—Mr. Jas. Brooks writes to say that in the description of this screen, which was illustrated in our number for June 29, it should have been mentioned that the sculpture was executed by Mr. J. E. Taylerson.

Books.

Architecture for General Readers; a Short Treatise on the Principles and Motives of Architectural Design. With a Historical Sketch. By H. HEATHCOTE STATHAM, F.R.I.B.A.; Editor of the *Builder*. With Illustrations drawn by the Author. London: Chapman & Hall. 1895.

THIS book cannot of course be "reviewed," in the ordinary sense, in these columns, but we may draw attention to its existence, and explain that the object of it is to supply—what we believe is much wanted—a book of moderate size giving such an outline of the conditions and objects of the art of architecture, and of its general history, as may be of interest to educated persons who have no professional connexion with architecture.

The first portion of the book is critical, and the relation of construction to design is illustrated by an analysis of the Greek and Gothic styles of architecture, as being the most complete examples of trabeated and arcuated construction respectively; the statical conditions of the beam and arch being explained so far as is necessary for understanding their influence on design. The first chapter deals with what may be called the philosophy of architectural design, including some special exposition as to the importance of plan in its relation to design, and of the objects to be aimed at in planning a large building. A chapter is devoted to "Mouldings" (a subject generally almost passed over in books for amateur readers), another to architectural ornament, and another to architecture as considered in its relation with the general aspect of cities and of landscape. The second portion of the book consists of a brief sketch of the history of architecture, in which the attempt has been made to treat historical architecture as one development, the different forms of which are all more or less connected with each other, instead of dividing the subject up into chapters on various styles and countries. The book contains about 300 illustrations, all drawn by the author, and (with the exception of the frontispieces to the first and second parts) drawn specially for this publication.

Though the book, as its title implies, is not addressed to architects, some points in it may, perhaps, not be without interest for them, and possibly also it may be useful to young students for the profession, as a first book to give them an all-round view of the subject: but this is for others to decide.

Examinations for Local Surveyors. Questions set at the Examinations of the Sanitary Institute; the Surveyors' Institution; the Municipal and County Engineers' Association; the Worshipful Company of Carpenters. With Answers. London: The Sanitary Publishing Co., Ltd.

WE are afraid that we cannot compliment the author of the answers given in this book, and we venture an opinion that a candidate for examination relying upon them would have a doubtful chance of success. We have only space to allude to a few inaccuracies, but these will show the absence of care used in the preparation of the book. Under the head of "Rivers Pollution Act," the effect of the Act of 1893 is said to make a Sanitary Authority responsible for an offence against the original Act, "whether the sewer was constructed prior to the passing of the Public Health Act or since that date." This is surely an extraordinary deduction from the text of the Amending Act, and the Public Health Act has nothing whatever to do with the matter.

In defining hard and soft water it is stated that "water at or below six degrees of hardness is considered soft, above twelve degrees hard." We were under the impression that water is usually specified as "hard" when it possesses more than six degrees of hardness.

Referring to ventilation and cubic space, it is stated that "it has been accepted as a standard of purity of air that the carbonic acid must be kept below 0·6 volumes per 1,000." "Must not exceed" was the accepted standard, but this standard has been proved unreliable from experiments made by Carnelly.

In describing the A.B.C. sewage precipitation "as used at Aylesbury," it is stated that alum, blood, clay, and charcoal are used. Blood is now omitted as an ingredient.

This book is one of a class inimical to the system of examination as a test of efficiency, as it gives facilities for obtaining certificates by means of a fair memory, with an entire absence

of knowledge of principles involved. When we remember the large powers which are placed by Government in the hands of sanitary officials, enabling them to put property-holders to considerable expense, and also remembering that Government has recognised the possession of certificates as a qualification for such officers, it is clear that a determined stand should be made against any system which may tend to rob such certificates of their value.

Les Artistes Célèbres: Hubert Robert et Son Temps. Par C. GABILLOT. Paris: Libraire de l'Art, Rue de la Victoire. 1895.

HUBERT ROBERT, whose name and works are not much known in England, may be called the French Pannini, and perhaps owed some of the suggestion of his style of subjects to Pannini, who was a little before him in date. Robert spent a long time in Italy making studies of the remains of Classic architecture, which he reproduced in a pictorial form, but in a more picturesque and less conventional manner than Pannini. Many of his compositions which are illustrated in this work are very good, and of considerable interest for architects. He was also, as the reproductions from some of his red chalk studies indicate, a good and free sketcher of landscape and foliage, apart from the architectural subjects which seem to have formed his principal interest.

Hubert Robert returned to Paris in 1765, after an eleven years' sojourn in Italy, bringing with him an immense number of drawings and studies, and, his name being already known to connoisseurs, he soon achieved a wide reputation, especially as the style of his compositions fell in with the then predominant taste for everything Roman.

The book in which his life and works are considered by M. Gabillot, is one of the most copious of the series to which it belongs—more so, in proportion to the rest, than the fame or artistic importance of Robert would justify; but it deals also with a very interesting period, and gives a great deal of information about other artists and personages of the time, as well as about the one to whom it is ostensibly dedicated.

Sussex. By AUGUSTUS J. C. HARE. London: George Allen. 1894.

A USEFUL popular guide to the county of Sussex, with a good map, and containing a considerable amount of historical and legendary information connected with the towns and localities mentioned. The book would be more agreeable reading if the author were not so continually in "a temper" with somebody or something, chiefly in relation either to ancient remains or modern architecture, about which latter he almost always speaks with a contempt which has something of impertinence about it. Even if he were always right, which we question very much, a guide-book is not the place for these demonstrations.

As the author expresses a wish to be informed of any omissions, we may observe that the interesting little brick church of Twineham, in a very out-of-the-way situation, appears to have escaped his notice.

Archæologia Oxoniensis. Part V. London: Henry Frowde. 1895.

THE Archæologia Oxoniensis increases in size, the Fifth Part containing more papers and a greater variety of interest than we remember in any previous number. Mr. Park Harrison writes a very interesting article on the architecture of the Bodleian Library and the old Schools, in which he seems to show pretty clearly that Sir Thomas Bodley, like other "building-owners" of his age, was to a great extent his own architect—at least that he directed the main design, though he may not have supervised all the details. The Archæologia is not now confined to Oxford, but contains a kind of appendix of "Recent Discoveries," antique and Mediæval.

Bletchingley: a Disfranchised Surrey Village. By J. TAVENOR PERRY. London: B. T. Batsford. 1895.

THIS illustrated pamphlet appears to be "No. 1" of a series under the general title "Bye-way History, or short studies of out-of-the-way places." It contains historical notes accompanied by a good many sketches of curiosities of the place; old houses and details, the hour-glass bracket in the church, &c. Records and sketches of old villages on this plan ought to be of considerable interest, and we hope the series will be continued.

The Student's Column.

METALS USED IN BUILDING.—II.

THE PRINCIPAL ORES *(continued)*.

THE majority of the ores of iron mentioned in the last article are exceedingly common in Nature. They chiefly occur in three different manners:—(1) Permeating the sedimentary rocks, (2) Crystalline grains in other rocks, or fibrous, and (3) In veins or lodes.

In reference to the first-mentioned mode of occurrence we may instance the Northamptonshire iron ore as a case in point. This is found on the geological horizon known as the Northampton Sand, which is a thick bed of sand, siliceous, calcareous, or micaceous, usually exhibiting much oblique lamination, often more or less hard, and sometimes interstratified with beds of clay. The upper portion of the formation is usually composed of sands and clays, whilst the lower is impregnated with iron. Professor J. W. Judd, C.B., remarks* that when quarried at the surface the iron-ore is seen to be composed, to some considerable depth, of the hydrated peroxide of iron only, which is the sole form in which it is worked. With greater depth, or where the bed is covered over by thick deposits, as in some outliers, or on running into a hill, the character of the iron entirely changes, being, in fact, an impure carbonate of a bluish or greenish-grey colour. This is due to the circumstance that where it comes out near the surface the iron, as might naturally be supposed, has been more readily oxidised, and the process has been assisted by percolating water; the solid carbonated beds below, on account of the closeness of their joints, are much less pervious. In many cases the iron is found a few feet from the surface, and is dug from a long wall or face of the deposit. On the ground it has the aspect of clinkers and scoriaceous matter, interspersed with sandy and ferruginous earth. Such clinkers are generally of a deep brown colour, but when broken are seen to have a brownish-purple or blue heart. No ore could be more easily obtained than this one; it is generally loose enough to be broken down by bars, and is then thrown up into railway trucks, temporary lines having been laid along the face of working for the time being. The mould, or overburden, taken away as the face is dug into is carefully preserved, so that when the ore has been removed (it is only a few feet in thickness) the surface of the field may resume its wonted aspect by the earth being replaced.

Iron also occurs (limonite) in sedimentary deposits as irregular pans. The Hythe beds of the Lower Greensand in many parts of Surrey contain enormous quantities disposed in this manner. Some time ago we gave an illustration† of a section at Tilburstow Hill, near Godstone, to show the effect of these hard iron bands in assisting the formation to resist the action of denudation, by which bold surface features were produced. In that case the iron is not disposed as clinkers, but as irregular, wriggling bands an inch or so in thickness, permeating the soft, ferruginous sand in all directions. Occasionally it is considerably twisted, and forms distinct pipes of iron. In the Middle Ages this ore and others similar to it in the Wealden area were used in iron manufacture.

Yet a third method of occurrence in sedimentary rocks—as minute grains. These iron grains may occur alongside such ores as that described from Northamptonshire, or the Lower Greensand of Surrey, or they may be the most abundant constituent of a sand suitable for the production of cast iron. Sometimes they are found to the exclusion of practically all other matter, as near Abbotsbury, in Dorsetshire, where one may see them at the surface in the form of little shots, in reality oolitic granules changed into iron. A certain amount of consolidation would render these similar to the celebrated iron-ore of Cleveland, in Yorkshire. At the last-mentioned locality, the original character of the rock is entirely replaced by iron, and made into ironstone. The main "seam" of Cleveland iron-ore has an extent of between 300 and 400 square miles, but only the north-eastern portion of the area contains really good mineral. The ore is usually rather thickly bedded, and towards the base has a somewhat greenish-grey tinge. Except at the outcrop, it is mainly in the condition of ferrous carbonate, with a small admixture of the peroxide. Silicate of iron is present, especially in the oolitic granules. It may be remarked that replacement of original constituents by iron, whereby we have an exact duplication of the original, is a very common feature with iron-ores found in sedimentary rocks in many parts of England.

Iron ore frequently occurs as the matrix of sandstones—binding together the divers particles composing the rock. Then we have the clay-ironstone of the Coal Measures; solid sheets of which are found over large areas, elsewhere represented by nodules occurring along definite lines, as in South Yorkshire and Derbyshire. This, as its name implies, is a clay, bound together into solid stone by iron, though a large amount of replacement may have taken place. The term clay-ironstone is sometimes applied to an ore of an exceedingly pure character, however, from which aluminous earths may be, practically, absent.

We have said that we do not intend to go into the abstruse subject of the origin of ores; but a great deal will, inferentially, be learnt concerning the matter from their mode of occurrence, and the student finds it difficult, in looking over divers samples of ores, to dissociate their appearance from their origin, whatever that might have been. Everyone knows that iron occurs in solution in many different kinds of river and spring water, but few persons have any idea as to how rapidly that iron may be parted with to form a solid mass. The process is sometimes effected in a few days. Go, for instance, to Blackgang Chine, in the Isle of Wight, and walk thence on the shore towards Atherfield Point. The cliffs are seen to be composed of several kinds of sedimentary deposits, more than one of which cropping out just above the beach contains enormous quantities of iron-ore weathered into most grotesque shapes, forming ledges and honeycombed rocks. From these beds issue little springs of water impregnated with iron, which ceaselessly trickle over the beach. Here and there in sheltered nooks, or convenient places, the iron is rapidly separated from the spring water (by agencies the nature of which we need not stop to inquire into) and constitutes a cement, binding patches of beach-gravel, sand, and shells together into solid slabs and blocks. In parts of Cornwall gravel made into stone by this process only yesterday, as it were, is sufficiently compact to be used as rough building material.

Bog iron ore, or lake ore, as it is sometimes called, is a commercial product forming at the present day in Norway, Sweden, and elsewhere. In colour it is dark brown to black, and may be earthy or compact. It is a mixture of hydrated peroxide of iron, phosphate of iron, and hydrated oxide of manganese, frequently with clay, sand, and organic matter. Lake ore is obtained from the bottom of lakes, in which it forms everywhere on the shallower slopes, near banks of reeds, where there is no strong current of water. It occurs in granular concretions of the size of small shot up to nodules 6 in. in diameter, the deposit being from 8 in. to 30 in. in thickness. This ore is obtained during the winter by inserting perforated iron shovels through holes cut in the ice; and so rapidly do these deposits accumulate that the proprietor can reap a crop, perhaps 6 in. in thickness, every twenty-five years.

Turning now to the mode of occurrence of iron ores placed in our second category, it may be noted that crystalline grains of magnetite are scattered throughout a very large number of igneous and metamorphic rocks, but not often in sufficient quantity to warrant their being exploited as an ore. The best-known form of iron occurring in Europe under the conditions indicated is that from Gellivara, in Sweden, where, some people would have us believe, there is a mountain made of magnetic iron ore. As a matter of fact, the ore in question occurs in a foliated crystalline rock composed of hornblende, mica, felspar, apatite, and other minerals, whilst an official report states that the bands containing the principal part of the ore occupy only about 160 acres of the surface of the mountain, though from the high angle at which the beds are inclined the ore in most places reaches to an unfathomable depth. As a rule it is magnetite, often with a central core of hæmatite, much of which is by no means crystalline. In some cases the ore and the rock containing it pass into each other. On the whole, the magnetites in the Archean rocks of New York and New Jersey occur in the same manner. In the Penokee Iron-bearing Series of Michigan and Wisconsin the ores sometimes lie in isolated and irregular patches from 10 ft. to 30 ft. in thickness, disposed in a lens-shaped manner. These lenses are separated by barren rock in places 100 ft. in thickness. The iron is environed by quartzite, and often there is a layer of what the miners call "paint-rock" (argillaceous

* "The Geology of Rutland, &c.," 1875, p. 115.
† The *Builder*, Oct. 28, 1893.

material) between the quartzite and the ore. In many places, however, the exploitable mineral is merely a few inches in thickness. The Huronian rocks of the Lake Superior region yield an enormous quantity of iron—limonite and hæmatite.

Specular iron occurs as separate crystals, and one variety is made of small flat scales resembling mica in appearance. Or, it may be found in a crystalline massive state, showing crystals in tints of steel-grey and of brilliant lustre. It is the prettiest of the numerous iron ores. Spathic, or "sparry" iron, may consist of nearly transparent glittering crystals, almost colourless. It is found extensively in Styria and Carinthia; also at Wearsdale in Durham, and in parts of Somersetshire. It almost invariably contains manganese.

The ores constituting our third category—occurring in lodes or veins—are common enough, but iron is such an abundant mineral that it pays to mine it in lodes only in few localities. According to the observations of Mr. Brenton Symonds* iron is widely distributed in the veins of all the metalliferous tracts, either in the form of sulphide in the depths of the mines, or as oxides in other situations. The most noteworthy deposits there are subordinate to the granite of the Hensbarrow district. They occur on the backs of certain lodes running east and west, that traverse the clay slate near its junction with the granite, and in some crosscourses. Large quantities have been raised at Restormel, Coldvreath, Pawton, and Tolbenny. Probably the lode at the first-mentioned place has yielded more iron than any other in the county. It enclosed besides hydrous oxide, some hæmatite, specular ore and a little manganese. The well-known Perran iron-lode contains both limonite and chalybite, which have been raised at intervals for a number of years. The back of this lode has been oxidised to brown hæmatite to a depth of from 50 to 100 ft., but below the line down to which it is influenced by the atmosphere, a solid and practically exhaustless dyke of ferric carbonate seems to extend the whole length of the lode.

From the practical point of view much of the hæmatite of Cumberland and Lancashire comes under this heading. The iron, however, occurs both in beds and in a vein-like manner. Mr. Kendall remarks that all the most important deposits in the Whitehaven district are by the side of faults, as at the Salter Hall and Eskett mines. Here there is a combination of the vein-like and the bed-like deposits and the ferruginization is entirely dependent in its occurrence on faulting.

Other interesting points could be adduced from various parts of the country, but bearing in mind that we are not to say much in the present series of articles on iron, except in its connexion with alloys, the preceding observations are sufficient for our immediate purpose as showing how the ore is found in Nature.

* "The Geology of Cornwall," 1884, p. 186.

GENERAL BUILDING NEWS.

ASTON UNION, BIRMINGHAM, NEW COTTAGE HOMES.—The Guardians for this Union have recently instituted an open competition for cottage homes. Numerous sets of designs were submitted by architects. Mr. William Martin was appointed assessor, and selected the designs prepared by Messrs. Franklin Cross and J. R. Nichols, of Birmingham, and awarded them the first premium of 70*l.* The guardians have since resolved to appoint the first premiated architects to carry out the work. The architects' estimate for the homes was 25,200*l.* The scheme embraces homes for boys and girls, probationary home, school, place of worship, infirmary, workshops, swimming-bath, bakery, stores, superintendent's house, fire-engine station, &c., and will be erected upon a site near to the Gravelly Hill workhouse, but will have no connexion with that establishment.

WESLEYAN BUILDINGS, BEBINGTON, CHESHIRE.—The New Wesleyan School Chapel at Bebington was opened on Thursday last week. The works have been carried out by Messrs. W. H. Bleakley & Co., of Birkenhead, from plans prepared by Mr. T. Taliesin Rees, also of Birkenhead. The contract was 930*l.*, furniture and fittings, 100*l.* The building is faced with red pressed bricks, relieved with white Storeton stone dressings; the woodwork is pitch-pine. The building is a portion of a large scheme, the plans of which have to include a chapel, vestries, &c., to cost about 3,000*l.*

RESTORATION OF EMPINGHAM CHURCH.—The parish church at Empingham, one of the largest in the diocese of Peterborough, has just been re-opened after restoration. The work of restoration has been carried out under the superintendence of Mr. J. C. Traylen, of Stamford, the Diocesan Surveyor, and the contractors were Messrs. Edmund Roberts & Son, of Weedon, Northamptonshire. The cost of restoration has been about 2,000*l.* The church consists of a western tower and spire, nave with aisles, north and south transepts, and a chancel with a vestry on the north side. The church was built in the twelfth century, and was restored, if not almost rebuilt, in the thirteenth and fourteenth centuries. The earliest part is of the Early English period, the south arcade being most likely the oldest portion of the church. The present restoration was necessitated by the rotten condition of the roofs throughout. The crushed and insecure state of one of the pillars rendered imperative its renewal on a new foundation. Other pillars and the remainder of the fabric have been made thoroughly secure in this respect. No more has been done in the way of restoration than was absolutely necessary, the great aim having been to retain the ancient features of the edifice. This especially has been done in the windows, all the old glass having been used up, including interesting bits of stained glass, coats of arms, &c. The plaster also retains its ancient face, with scraps of wall painting thereon. Entirely new oak roofs, with thick lead covering, have been put up, the pattern of the old ones having been followed as closely as possible. The floor has been laid with stone. New wood-block flooring covers the seating area, and for the present the worshippers will be accommodated with 300 chairs. Hot water piping circulates through the old church and chancel, the heating arrangements being carried out by Messrs. J. L. Bacon & Co., of London. But little renovation was required to the fabric externally. The tower and spire have been pointed; the pinnacles have been restored; a lightning conductor has been supplied; and the parapets have been attended to. The chancel has not been touched. Outside, the ground has been lowered round the north side, thus enabling the north door and its approach to be restored to its original proportion.

CHURCH, PONTYCLUN, GLAMORGANSHIRE.—The new Church of St. Paul, Pontyclun, has just been consecrated by the Bishop of Llandaff. The church is built in a late period of Gothic architecture, and consists of a nave, with a chancel, vestry, and organ-chamber. Accommodation is provided for 350 people. The walls are built of local stone, with Bath-stone dressing, and the windows are all built with traceried heads. The main walls are grey, and the roof is of green slate with red tile ridges, surmounted by a bell-cote furnished with two bells. The walls inside the church are coloured buff. The contractor was Mr. John Morgan, Llantrisant, and the work has been carried out under the superintendence of Mr. E. M. Bruce-Vaughan, the architect. The cost is 1,500*l.*

ALTERATIONS TO ROSENEATH CHURCH, DUMBARTON.—Roseneath Parish Church, Dumbarton, has just been reopened after alterations. The architects were Messrs. Burnett, Son & Campbell, of Glasgow. The joiners were Messrs. Maclean & Son, Roseneath; builders, Messrs. Macpherson & Currie, Cove; plasterers, Messrs. Rome & Co., Glasgow; slaters, Messrs. Thom & Son, Helensburgh; plumber, Mr. Shedden, Row; carved oak work, Mr. John Craig, Glasgow; marble work, Messrs. Galbraith & Winton, Glasgow; organ-builders, Messrs. Hill & Son, London.

CHURCH BUILDINGS, ABERDARE, GLAMORGANSHIRE.—The memorial-hall and church erected at Aberdare to the memory of the Rev. R. Bowen Jenkins has just been opened. The hall will seat a congregation of nearly 500 persons. The institute contains a boys' reading-room, a coffee-bar, and a room devoted to amusements. The mens' department consists of a committee-room, a reading-room, card-rooms, and billiard-rooms 42 ft. by 24 ft. The architecture was completed by the late Mr. Wakeling, of Merthyr.—*Western Mail.*

TECHNICAL SCHOOL, PRESTON.—On the 6th inst. the foundation-stone of the Victoria Jubilee Technical School, Preston, situated in Corporation-street, was laid. The plans for the school have been furnished by Messrs. Cheers, Aspinall, & Smith, of Blackburn. The building will cost about 16,000*l.*, independently of fitting and furnishing.

NEW PAVILION, RYDE.—On the 4th inst. Sir Richard Webster opened the new pavilion which, during the last few months, has been constructed between the promenade and railway piers at Ryde, Isle of Wight. The building consists of an octagonal concert-hall, 65 ft. in each direction, and an annexe, and is carried by iron columns sunk into the ground and thoroughly braced together. The hall is capable of seating 700 people, and additional accommodation is given by means of a promenade gallery, 10 ft. in width, supported by ornamental columns. The annexe contains several large public rooms on the ground floor, and on the first floor other rooms are reserved for the use of the members of the Royal Victoria Yacht Club. The superstructure is composed entirely of wood, carried on a framework of steel joists. The work, which has cost 5,338*l.*, has been constructed from the designs of Mr. R. St. G. Moore, the contractors being Messrs. Roe & Grace.

MISSION HOUSE, SHOREDITCH, E.C.—The foundation-stone was laid on the 6th inst. of a new Mission House, Shoreditch. The architect is Mr. Richard J. Lovell, of London. The house will contain a mission hall, and several rooms available for large or small classes, while a series of bath-rooms for the use of poor women and children is provided. Besides bedroom accommodation for the ladies in residence, there will be a refectory and a private chapel. There is also to be a soup kitchen.

WESLEYAN CHAPEL, LANDRAKE, CORNWALL.—On the 9th inst. a new Wesleyan chapel was opened at Landrake. The chapel is built of local limestone with red brick dressings, and adjoins the northern side of the old chapel. It has a nave and two transepts, and the pitch-pine open benches will seat 150 people. The old chapel is to be converted into Sunday-school class-rooms, and has folding doors opening into the new building, the pulpit being so placed as to command a congregation in both buildings. The chapel, about 50 ft. by 30 ft., was designed by Mr. S. P. Hosking, built by Mr. T. Hawke, and fitted by Mr. J. Churchward.

SANITARY AND ENGINEERING NEWS.

HARBOUR TUNNEL, GLASGOW.—The Glasgow Harbour Tunnel, which passes beneath the Clyde at Finnieston, was opened on the 5th inst. In 1889 Parliament sanctioned the Harbour Tunnel scheme, which was promoted by a company formed for the purpose. The underground passage connects Mavisbank Quay on the south side with the Finnieston and Stobcross Quays on the north side, and consists of three tunnels, 16 ft. in diameter, the side ones for vehicular traffic and that in the centre for the passage on foot. The approach on either side is by a circular shaft, 80 ft. in diameter, in which are operated the hydraulic hoists, raising and lowering the vehicles as they leave or enter the tunnels. The shafts are formed of cast-iron segments and lined with brickwork, the material met with in sinking on the south side being sand overlying boulder clay, and on the north side being clay exclusively. The material was excavated by hand, and carried to bank by cranes commanding each shaft. The tunnels themselves are also lined with cast-iron segments, filled in with concrete and lined with glazed brick. All the tunnels were driven by means of shields and compressed air, the average pressure ranging from some 12 to 15 lb. per square inch above atmospheric pressure, and the maximum attained (for one day only) being 21 lb. Each shaft contains six divisions for as many lifts, half being devoted to ascending and the other half to descending traffic. The maximum weight allowed for is about 5 tons, and the speed about 4 ft. per second. The hoisting appliances were supplied by the Otis Elevator Company, Limited, of London. Messrs. Simpson & Wilson, C.E., of Glasgow, were the engineers of the undertaking.

WATERWORKS, SALCOMBE.—New waterworks have just been opened at Salcombe. The water, says the *Western Morning News*, has been obtained from springs in Rood Vale, and the whole of the water has been collected in 9-in. pipes, and conveyed down to the pumping-station at Hanger in close-jointed Stanford pipes. The pumping-station at Hanger occupies a site nearly 40 ft. square. The pump-house is fitted with a Priestman horizontal oil-engine of 6-horse power, and the water has to be lifted 350 ft. in height, and the rising main is of 4-in. diameter, of best grey metal, tested with a head of 400 ft., and coated with Dr. Angus Smith's compound. The new high-level reservoir is on the highest land in the district, called the Berry, and is 50 ft. long by 30 ft. wide and 10 ft. deep, and is closed in with 4½-in. brick arches in cement on rolled iron girders, and holds over 80,000 gallons. The works have cost over 3,600*l.* The contractor has been Mr. Jenkins, who has carried out the work under the superintendence of Mr. F. Beesley. Mr. James Patey was the clerk of the works.

MISCELLANEOUS.

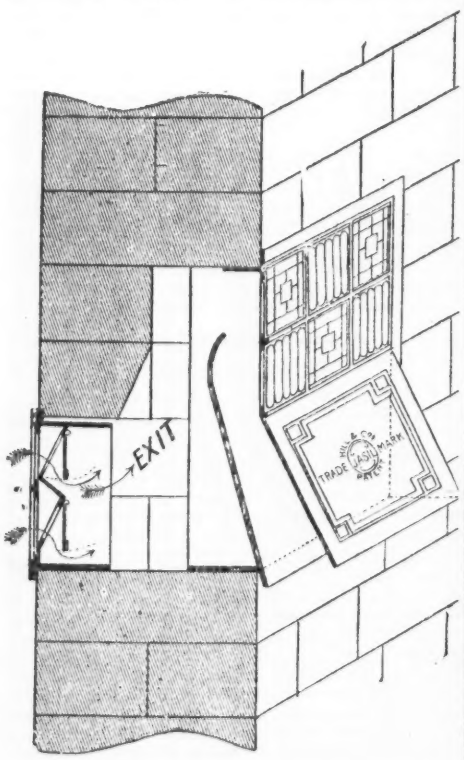
LIVERPOOL ENGINEERING SOCIETY.—A party of the members of this Society paid a visit, on Saturday last, to the Dinorwic Slate Quarries, Llanberis, and the Snowdon Mountain Rack Railway. The quarries, which cover an immense area of ground, have been in existence for over 200 years, although but little work was done in them for the first half of that period, the greatest part of the progress having been made within the last sixty or seventy years. The party, led by Mr. W. Brinckman, A.M.Inst.C.E., were first shown the system of splitting and dressing slates. They were then conveyed in the rope tramways up the very steep inclines, some of which are at a gradient of from 1 in 3½ to 1 in 4. After an inspection of the interesting operations in the galleries, the arrangements for a very large blast, which is to take place in a few weeks' time, were shown. The party then visited the workshops. One interesting feature was the first engine used on the works from 1848 to 1882, but which is now laid aside. This engine was built by the North Fleet Iron Works, Kent. The large water-wheel, from which all the power is obtained for driving machinery, and is 50 ft. in diameter, was also a source of interest. In the works there are fifty galleries, which rise to a height of 2,000 ft. above the sea level. About 3,000 men and

boys are employed in the works. After the inspection of these quarries—the party next proceeded to the Victoria Hotel at Llanberis, where a luncheon had been provided for their benefit by Messrs. Holme & King, the contractors for the construction of the Snowdon Mountain Rack Railway. The members next proceeded to visit the line of railway now under construction from Llanberis to the summit of Snowdon. This line, when completed, will be similar to the latest of the Swiss Mountain Railways, the gauge will be 2 ft. 7½ in., the gradients never steeper than 1 in 5½, and the curves never sharper than a radius of 4 chains. The system to be adopted will be the "rack," composed of solid double cast-steel "cogs," and the locomotives driving with two double pinions, four teeth, therefore being in gear at the same time. The length of the line is 4⅝ miles, and the road will be provided with terminal stations at Llanberis and the summit, with intermediate stations at two points on the route. It is intended to provide four locomotives of the latest and most improved pattern, with three trains of two carriages each, each train to accommodate 112 passengers. The locomotives are being manufactured in Winterthur, Switzerland, and the carriages and waggons are being built at Lancaster. It is intended that the transit from Llanberis to the summit should occupy under the hour, and the same in returning. On Monday some of the members visited the Yr Eifl Quarries of the Welsh Granite Company, under the management of Mr. George Farren, J.P., Assoc.M.Inst.C.E. Here the inclines range from 1 in 5 to 1 in 1½, and the highest gallery is about 1,000 ft. above the level of the sea.

THE ARCHITECTURAL MUSEUM.—In reference to a letter printed in our columns last week, we are officially informed that Mr. Sawyer, the writer of the letter, was mistaken in asserting that in order to sketch at the Museum it was necessary to pay "a gold coin" and become a member of the Westminster School of Art. The fees for sketches, irrespective of the School of Art, are 1s. a day, 2s. 6d. a month, or 10s. a year; moderate enough certainly.

MESSRS. W. & R. LEGGOTT, of Bradford, have just turned their business into a limited company. It is not offered to the general public, all the shares having been taken up by the proprietors, *employés*, and friends.

HILL'S NOISELESS FLAP VENTILATORS.—The ventilator thus described is the one shown on the inner side of the wall in the appended section, and is intended to be used as an exit or extract-ventilator, either into an extract-flue or in connexion, as shown here, with external-wall extract-ventilator. The flap on the inner ventilator is really "noiseless." It is made of oiled silk, and has also the advantage (which the patentees, by the way, do not mention) that even if the hinge is stiffened from rust or dirt and sticks (as often happens with the mica flaps) the flap, not being rigid, will still act. Whether it will always keep quite wind-tight under back-pressure might be a question, but we think it will be practically so. In case of the flap not being moved outward by a slight current of air, there is still room



for air to pass under it, as when not blown back it hangs vertically and leaves a space underneath. The outside ventilator is no doubt, as the patentees say, proof against wind and rain. As to the rest, we have little belief in the extracting action of any arrangement of "baffle-plates," however ingenious; but we give the section of it for our readers to judge. As an outlet-ventilator, however, the flap seems likely to fulfil its purpose of letting out air and at the same time preventing back-draught better than the mica ones.

NOTTINGHAM CASTLE.—The Castle, now used (as our readers will remember) as a museum, is being fitted up with heating apparatus, the "Beeston Radiators" being the apparatus adopted. Messrs. Danks & Co., of Nottingham, are the contractors for the work.

TELEGRAPHIC ADDRESSES.—A new supplement to Sell's Directory of Registered Telegraphic Addresses has been issued, in sending which Mr. Sell asks us to state that he has the permission of the Postmaster-General to state the trade or profession of firms in the alphabetical lists, and will add this information in the next edition if firms will give him the requisite information.

THE PARIS 1900 EXHIBITION.—M. Bouvard, the directing architect to the Exhibition, has had prepared a bird's-eye view showing the Esplanade des Invalides as it is to be after the Exhibition, when it is to be, so to speak, returned to the Parisians with new embellishments of trees, sculpture, parterres of flowers, and a monumental fountain, the whole forming a kind of continuation of the Champs Elysées beyond the new bridge which will be formed across the Seine.

SURVEYORSHIP, BURNLEY, LANCASHIRE.—At the monthly meeting of the Burnley Town Council on the 3rd inst., a lengthy discussion took place on the recommendation of the joint meeting of the Improvement and Highways and Sewage Committees to appoint Mr. G. H. Pickles Borough Surveyor, at a salary of 250*l.* a-year, and to appoint Mr. Button, the retiring Surveyor, Consulting Engineer, at a salary of 100 guineas per annum. After several amendments had been defeated, the recommendation was agreed to. Alderman Baron then submitted a further resolution, to the effect "That in accepting the resignation of Mr. F. S. Button, a member of the Institute of Civil Engineers, of his office of Borough Surveyor of Burnley, the Council desire to place on record their high appreciation of the valuable services Mr. Button has rendered to the Corporation, and to acknowledge the courtesy shown by him to the members of the Council and others during the 7½ years he has held such office." Alderman Burrows seconded, and the resolution was carried unanimously.

MEMORIAL WINDOW, EAST BUDLEIGH CHURCH.—A stained glass window has been placed in the church of East Budleigh, commemorating the laying of the first telegraph cable between this country and America. The subject chosen for illustration is "Christ stilling the tempest." The window is the work of Mr. F. Drake, of Exeter.

CITY COMMISSION OF SEWERS.—On Tuesday a meeting of the City Commission of Sewers was held at the Guildhall, Mr. H. T. Gordon presiding. A deputation of merchants and traders in the vicinity of St. Martin's-le-Grand attended with a memorial drawing the serious notice of the Commissioners to the grave necessity for abating certain noxious emanations from the General Post Office, which had prevailed for some years past to the detriment of the public health and comfort. Dr. Sedgwick Saunders, the Medical Officer of Health, said there was nothing in the sewers or gullies to account for the effluvia, which was doubtless caused by the damping down of hot coal and coke in the machinery department of the Post Office. On the motion of Mr. Deputy Pepler, the memorial was referred to the Sanitary Committee to take such immediate action as they might be advised to prevent the continuance of the nuisance.—The Streets Committee reported that the additional cost of carrying on the repaving of Fenchurch-street, Mansion House-street, Poultry, Liverpool-street, and Upper Thames-street, by working during daylight with two shifts of men of eight hours each, between 4 a.m. and 3 p.m., was estimated at 1,257*l.* The accepted tender for working during the ordinary hours, from 6 a.m. to 6 p.m., with intervals for meals, was 2,476*l.* The saving of time, if the additional expense was incurred, by working in two shifts, would be from five to six days. Mr. Deputy White moved that the work should be done in the ordinary hours, and for the amount of the original tender, and this, after a debate, was carried by a majority of two votes. It was decided to refund 3,000*l.*, with interest, being the sum deposited by the City of London Electric Lighting Company for the due fulfilment of their contracts for lighting the City by electricity.

NEW RAILWAYS IN THE NORTH OF FRANCE.—A large new railway system ("reseau," as the French call it) is to be carried to serve the district of the Côtes du Nord. The cost will probably be about 23 million francs. Several of the projected lines, especially that from Brieue to Portrieux, and from Plancoët to St. Cast, will go through very beautiful country, and are likely to become popular travelling routes.

PUBLIC LATRINES IN PARIS.—Subterranean retiring-rooms are shortly to be constructed at various points in Paris, on the model of those in London. The first will be constructed at the Place de la Bastille and the Boulevard Magenta.

THE "SELF-LIGHTING GAS-BURNER."—A few days ago we inspected one of the most remarkable inventions of modern times. It is now possible by turning on the tap of a gas-jet to cause the gas to light itself—without the aid of a "by-pass," and without applying a lighted match, or taper, or by electricity. The invention is known as "Duke's Self-lighting Gas-burner," and certainly deserves its name. Briefly, the gas is lighted by taking advantage of the well-known property of platinum to cause the combination of hydrogen with oxygen, whereby heat is developed sufficient, in the adaptation employed, to light a stream of gas issuing from the burner. The work is accomplished by a purely chemical process. Attached to an ordinary governor-burner is a small metal tube, at the summit of which is a plug of porous refractory material. In the "pores" of this platinum black has been deposited; and the top of the plug is almost in a line with the top of the burner. From the centre of the plug springs a piece of twisted platinum wire, bent over in the direction of the orifice of the burner, and almost touching the latter. When the gas is turned on, it finds its way to the "platinum black" which rapidly becomes incandescent and communicates its heat to the platinum wire; in its turn the latter gets white-hot and the stream of gas is ignited—the whole operation occupying from three to six seconds. The practical applications of this invention are innumerable; it is destined to do away with the "by-pass" and it will have its effect on the match industry. In regard to its connexion with the incandescent light the invention cannot, in its present form altogether do away with the "by-pass" as the few seconds that elapse between turning on the gas and its lighting are enough to allow the escape of gas sufficient to mutilate the film by explosion. But it can and does first of all light a "pseudo by-pass" which ignites the gas when the latter is turned full on. Like a number of other useful inventions, however, it has been introduced to the market before the proper time—before the invention was completed. Useful as it is, we have no hesitation in saying that it is doomed to immediate failure unless some radical changes in its construction take place. The public is interested enough to purchase (for the modest sum of half-a-crown) one of these burners as a trial, but the sale would soon fall off if, after lighting a few times, the thing was found to fail. We will point out a few defects that occurred to us to require remedying as we looked at the burner. In the first place, "platinum black," as is perfectly well-known to chemists, has a very short "life"; the inventor's representatives told us that it would last as long as the burner, which is not saying much for the burner. If the inventor has discovered a means of prolonging that life other than by the method of causing the deposition of the platinum in the refractory porous substance alluded to—the nature of which is a profound "secret"—we failed to elicit the fact; and we decline to believe that the life of the black is materially increased by its method of introduction. That is an important point, but is insignificant compared with our next objection. The gas is ignited eventually by the platinum *wire* becoming white hot, as we have said; but we noticed that, unless that wire was most carefully adjusted in a certain position with reference to the orifice of the burner, the gas would not ignite. Now nothing could be much more pliable than platinum wire, and nothing could be easier than for a servant in dusting, say, a chandelier to cause a slight displacement of the wire. In taking a burner home it might also become deranged. True, it is not at all difficult to re-adjust the wire, but that is not the point. Matches are cheap enough, and rather than "tamper with the gas," nine people out of ten would prefer to light it in the ordinary way. Another matter, respecting which the inventor will have to satisfy us in the practical working of his device, is as to the effect of dust in impairing the access of the gas to the platinum black. In certain situations, no doubt, dirt would be burnt up with each lighting, but all dust could not be disposed of in that way. Any retardation in lighting after the gas had been turned on might lead to serious consequences, to say nothing of the offensive odour emitted under even favourable conditions. In short, we believe this invention has a future; but it will have to be considerably modified before it altogether passes out of the range of "scientific toys."

LEGAL.

PARTY WALLS AND THE LONDON BUILDING ACT, 1894.

DISAGREEMENT OF THE JUDGES.

THE case of Crow *v.* Redhouse came before Justices Wills and Wright in the Queen's Bench Division, on the 4th inst., for judgment, it being a special case stated by Mr. Dickinson, a Metropolitan magistrate, on an appeal by Samuel Redhouse, under Section 150 of the London Building Act, 1894, against a decision by Mr. Arthur Crow, a District Surveyor of the Whitechapel Spitalfields district. Section 150 of the Act in question provides that, when it appears from the building notice served on the District Surveyor that it is proposed to erect any building which may be in contravention of the Act, the District Surveyor shall serve upon the builder, or building owner, a notice of objection, and it gives an appeal to a magistrate from this notice.

The facts of the case are shortly as follows:—Mr.

Redhouse proposed to rebuild a six-story warehouse, No. 3, Church-street, which in consequence of a fire and subsequent proceedings was taken down as dangerous in November, 1894, for more than one-half of its cubical extent, so that the proposed rebuilding would be a "new building," within Section 5 (6) of the London Building Act, 1894, which defines "new building" as "any building which has been taken down for more than one-half of its cubical extent and re-erected, or commenced to be re-erected, wholly or partially, on the same site after the commencement of this Act." The District Surveyor served a notice of objection on Redhouse, but the matters in the notice were remedied with the exception of the objections made to the use without thickening of a wall, forming the west boundary of the site, as the party-wall, between the reinstated building, No. 3, Church-street, and the adjoining warehouse, No. 1, Church-street, the said wall not being in conformity with the provisions of the Act as to new party-walls. Before the fire took place the party-wall had been the party-wall between No. 1 and No. 3. So far as the party-wall concerned No. 1, which had not been seriously injured by the fire, it had been reinstated in the course of the reinstatement of No. 1. These reinstatements had not amounted to the erection of a "new building" at No. 1. Redhouse appealed to the magistrate on the ground that he was not compelled, by law, to make the party-wall conform to the provisions of the Act of 1894. The extent to which the party-wall had been burnt and taken down in consequence of the fire amounted to only one-third of its superficial area, and the remainder was safe. The party-wall had been erected in conformity with the previous building Acts, but was not of the thickness required by the Act of 1894. Redhouse's contention to the magistrate was that, as the party-wall had not been taken down, burnt, or destroyed, to the extent of one-half thereof, by virtue of Section 208 of the London Building Act, 1894, the proposed use, by him, of the party-wall was not in contravention of the Act. The Section in question enacts that "Unless in any case the Council otherwise allow, when a party-wall or external wall not in conformity with this Act has been taken down, burnt, or destroyed, to the extent of one-half thereof (measured in superficial feet), every remaining portion of the old wall not in conformity with this Act shall either be made to conform therewith or be taken down before the rebuilding thereof." The surveyor, Crow, contended that the proposed re-erection being a "new building" within Section 5 (6) of the Act, the party-wall should be so erected as to comply with the provisions of the said Act, and that there was no exemption enacted or implied in Section 208. The learned magistrate decided in favour of Redhouse, and held that he could not be compelled to take down, rebuild, or thicken the said party-wall, and against this decision the Surveyor appealed.

Mr. Justice Wright, being the junior Judge, delivered judgment first, there being a difference of opinion between himself and the other member of the Court. In the course of his judgment the learned Judge said that the question was whether the party-wall was to be considered as a new structure within the London Building Act, 1894. If the party-wall was considered by itself, it had not been pulled down or destroyed to the extent of one-half, and therefore if taken by itself, it was not within the section requiring it to be constructed as a new wall. Section 10 of the Metropolitan Building Act, 1855, enacted, "Whenever any old building has been taken down to an extent exceeding one-half of such building, such half to be measured in cubic feet, the rebuilding thereof shall be deemed to be the erection of a new building; and every portion of such old building that is not in conformity with the regulations of this Act shall be forthwith taken down." If that section was re-enacted in the Act of 1894, either in substance or expressly, the whole of the building came within it, and must be rebuilt. The Act of 1894 did not in terms contain any such provision. It was said on behalf of the County Council that Section 5 of the Act of 1894 had that effect. If Sub-section 6 of Section 5 was to be taken according to the usual rules of construction of interpretation clauses, there was nothing in the Act which would apply to the present case. The expression "new building" was not used in those parts of the Act which were material. He thought with great hesitation that that interpretation clause was an enacting clause, and not a mere interpretation clause. The Legislature could never have intended to destroy Section 10 of the Metropolitan Building Act, 1885. But the question was not what the Legislature intended, but what it had done. He thought that Parliament in enacting the definition clause did consider Sub-section 6 of the definition clause as an enactment. Then Section 210 appeared to him as a mere repetition of Sections 7 and 9 of the Act of 1855, and strengthened the ground for concluding that the whole of that group of sections should be considered as included in the present Act. He thought that the learned magistrate was wrong.

Mr. Justice Wills, in dissenting, said the expression "new building" was not to be found in the portions of the London Building Act which applied to the wall in question. But he thought that Section 208 governed the case. Supposing that the party-wall in question had been destroyed to the extent of one-half, the proper course under that section would have been to order the whole to be taken down, or to make it conform to the provisions of the Act. It seemed to him that if the wall was not destroyed to the extent of one-half, it was enacted that such liability should not attach. He thought that there was no foundation for saying that there was a substantial enactment in the interpretation clause. It seemed to him that the interpretation clause was satisfied by giving the extended meaning to the words "new building," which was contained in the definition clause. He, therefore, thought that the learned magistrate was right, and that their judgment ought to be for the respondent.

Mr. Justice Wright withdrew his judgment, and

Judgment was entered for the respondent with costs.

Mr. H. F. Dickens, Q.C., and Mr. Daldy appeared for Mr. Crow, the Surveyor; while Mr. R. C. Glen represented Mr. Redhouse.

INTERFERENCE WITH ANCIENT LIGHTS.

THE case of Edgeley *v.* the Metropolitan Electric Supply Company, Limited, came before Mr. Justice Stirling in the Chancery Division of the High Court of Justice, on the 4th inst., on a motion for an injunction to restrain the defendant company from erecting a wall so as to interfere with the plaintiff's ancient lights.

Mr. Warrington, Q.C., stated that the parties had come to terms, the terms being comprised in a letter. He (Mr. Warrington) thought that the best course to pursue would be for the junior counsel on both sides to initial those terms, and then there could be an injunction to stay all the proceedings.

His Lordship assented to this.

MEETINGS.

SATURDAY, JULY 13.

St. Paul's Ecclesiological Society.—Visit to Peterborough. Train leaves King's Cross at 10.15 a.m.

Institution of Junior Engineers.—Visit to Messrs. Willans & Robinson's works, Thames Ditton. Train leaves Waterloo at 1.52 p.m.

TUESDAY, JULY 16.

Royal Archæological Institute.—Annual meeting, to be held at Scarborough.

WEDNESDAY, JULY 17.

Royal Archæological Institute.—Annual meeting (continued).

Builders' Foremen and Clerks of Works' Institution.—Half-yearly meeting of the members. 8 p.m.

THURSDAY, JULY 18.

Royal Archæological Institute.—Annual meeting (continued).

FRIDAY, JULY 19.

Royal Archæological Institute.—Annual meeting (continued).

SATURDAY, JULY 20.

Architectural Association.—Visit to Stanstead Montfichet. (See advt.)

Royal Archæological Institute.—Annual meeting (continued).

Northern Architectural Association.—Annual excursion, The Chesters.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

10,620.—VENTILATOR: *E. Nicholls.*—This invention relates to a ventilator-cowl made in five segments, shaped and combined so as to form a kind of lobster-back cowl, except that instead of being closed at the back the cross-joints between the overlapping segments are left open, so that a body of wind may enter and promote the suction in the chimney or shaft.

10,637.—FLOORING, &c.: *E. Pease.*—An arrangement for combining strength with rigidity in a manner applicable to flooring, walling, and other structural purposes. This is effected by employing a number of tubes of iron or steel, rolled from the flat into cylindrical form, but with the edges apart, so that a number of tubes may be arranged to intersect longitudinally and form a rigid structure when the interstices are filled with cement.

13,732.—WATER-CLOSETS: *J. Shanks.*—Relates to a novel valve arrangement for water-closets, and joints for connecting pipe branches of earthenware to metal or other pipes. A basin of the "wash-out" type has a discharge outlet at the back, which communicates with a vertical passage, or trunk, having in it two disc valves. The upper valve is seated near, and is deep enough to cover the discharge outlet. The lower valve is arranged to work like a piston. A rod, which extends to the usual closet-handle, raises the valves, and lets on the flushing water. The contents of the basin become discharged into the trunk, and eventually pass into the drain when the closet-handle is allowed to descend. The improved joint for water-closet apparatus is a spigot-and-faucet arrangement, combined with a bayonet catch device, and locked with cement.

14,752.—WINDOWS: *L. Robson.*—A device for connecting sash cords to windows. Consists of a bracket, having a socket whose orifice and exterior are of truncated conoidal shape, with a longitudinal opening which extends throughout the length of the socket, and is wide enough to admit the sash-cord. The device is screwed to the window-sash and the knotted sash-cord inserted.

15,854. — PAINTING: *A. Slater.* — A machine for painting, consists of a revolving brush which applies paint to surfaces passed under it, a paint container supplies the feed by means of rollers which are covered with india-rubber and press against the brush.

19,132.—BRICK KILNS: *W. Wilford.*—In the building of brick kilns, a series of independent adjacent chambers are made, with intervening walls between them, having horizontal passages leading from one chamber to the next adjoining. Two main flues are arranged into which the chambers discharge, and means are provided for conveying the gases from the main flue to the atmosphere. Other modifications are mentioned in connexion with draught and fuel openings.

7,542.—STONE: *G. Jenkins.*—Deals with artificial stone for building purposes, composed of crushed Kentish ragstone, Portland stone, and Portland cement. It is coloured with red metallic oxide, and may be moulded to any shape.

NEW APPLICATIONS FOR LETTERS PATENT.

JUNE 24.—12,216, Dick Radclyffe and T. Burrows, Water-pipes to Prevent Same Bursting through Frost.—12,242, E. Arndt & G. Bruyn, Artificial Stone.—12,243, L. Klippert and others, Drying Kilns.

JUNE 25.—12,261, A. McGarry, Chimney-pot.—12,264, B. Bott, Screw-driver.

JUNE 26.—12,367, W. Thomas, Wood-screws.—12,368, C. Jamieson, Window-sashes.—12,382, J. Bloomfield, Manufacture of Plaster.—12,391, W. Joy, Drying Slurry by the Waste Heat from Cement Kilns.—12,400, W. Williams, Fixing Rain-water, Soil, and other Eared Pipes.

JUNE 27.—12,418, W. Johns, Glazing the Roofs of Greenhouses, &c.

JUNE 28.—12,473, A. Long, Water-apparatus for Lavatory-basins, &c.—12,475, S. & M. Adams, Gully and other Traps, and Grates Connected Therewith.—12,535, L. Hatschek, Material for Coating or Covering Walls, Roofs, &c.

JUNE 29.—12,562, R. Hooker, Sash-fastener.—12,572, J. Morris, Silent Spring Hinge.

PROVISIONAL SPECIFICATIONS ACCEPTED.

10,089.—J. Patchett. Time precipitation process of Mortar Analysis.—10,353, S. Green, Antifrictional arrangement for Band-saws.—18,390, W. Putman, Construction of Cisterns.—10,479, J. Holt, Window Sash Fasteners.—11,105, A. Callister, Raising and Lowering Window Sashes, and for retaining same in any desired position.—11,353, A. Cowie, Cutter Heads for Wood-working Machinery.—11,462, F. Golby, Slow Combustion Stoves.

COMPLETE SPECIFICATIONS ACCEPTED.

(Open to Opposition for Two Months.)

12,559, L. Milnes, Disinfecting Air Inlet Ventilator for Drains.—9,991, M. Tabor, Flooring or Sliding Board.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

JUNE 27.—By *Worsford & Hayward* (at Dover): Two plots of building land, Barton-rd., Dover, f., 152*l.*; 4 plots of building land, Cherry Tree-av., f., 332*l.*; 49, York-st., f., 350*l.*; Beech Grove Dairy, Ewell, Kent, f., 350*l.*; Maison Dieu Cottage, f., 200*l.*

JUNE 28.—By *W. A. Blakemore:* 59, Cambridge-st., Hyde Pk., & 11, Berkeley-mews, u.t. 22 yrs., g.r. 8*l.*, r. 141*l.* 995*l.*; i.g.r. of 11*l.* 16s., Edgware-rd., &c., u.t. 22 yrs., g.r. nil, 150*l.*; 141 and 143, East India Dock-rd., Poplar, u.t. 57½ yrs., g.r. 10*l.*, r. 96*l.*, 750*l.*; 84, 86, 88, and 90, Kerby-st., u.t. 58 yrs., g.r. 14*l.*, 580*l.*; 39, 41, 43, and 45, Southill-st., u.t. 58 yrs., g.r. 4*l.*, 600*l.*; 17, 18, 19, and 20, Cordelia-st., u.t. 58 yrs., g.r. 12*l.*, 480*l.*—By *Dolman & Pearce:* 52, 53 to 63 odd, Roderick-rd., Haverstock Hill, u.t. 72¾ yrs., g.r. 49*l.*, r. 311*l.*, 3,245*l.*—By *Prickett & Ellis:* 15, Highbury-ter., Highbury, f., r. 80*l.*, 1,070*l.*; 33 and 37, Highbury-pl., f., r. 150*l.*, 2,280*l.*; 3, Florence-st., Islington, f., r. 42*l.*, 660*l.*; 31, Lisson-grove, Marylebone, f., r. 60*l.*, 1,130*l.*; 10, Alwyne-rd., Canonbury, u.t. 50 yrs., g.r. 10*l.*, e.r. 50*l.*, 350*l.*: 12 and 16, High-st., St. John's Wood, u.t. 53 yrs., g.r. nil., r. 92*l.*, 195*l.*; 36 and 38, High-st., and a ground rent of 8*l.*, u.t. 5 yrs., g.r. 9*l.* 1s., 145*l.*—By *W. W. Read & Co.*: 29, Bennett-st., Blackfriars, f., r. 50*l.*, 750*l.*; 29 and 30, Crozier-st., Lambeth, u.t. 33 yrs., g.r. 13*l.* 19s., r. 80*l.*, 875*l.*; 14 and 16, Camberwell New-rd., Camberwell, u.t. 8½ yrs., g.r. 14*l.* 14s., r. 84*l.*, 182*l.*

JULY 1.—By *Green & Son* (of Hammersmith): 66, 68, 70, and 86, St. Dunstan's-rd., Hammersmith, u.t. 94 yrs., g.r. 22*l.*, 675*l.*—By *Physick & Lowe:* F.g.r. of 202; Tollington Pk., &c., Holloway, reversion in 70 yrs., 5,500*l.*, f.g.r. of 160*l.*, Canterbury-rd., &c., Kilburn, reversion in 67 yrs., 4,000*l.*; f.g.r. of 244*l.* 4s., Wyndham-rd., &c., Camberwell, reversion in 68 yrs., 5,900*l.*; f.g.r. of 196*l.*, Brompton-rd., Brompton, reversion in 64 yrs., 8,625*l.*—By *G. W. Potter:* 66, Heath-st., Hampstead, f., r. 60*l.*, 800*l.*; 8, New Bridge-st., Blackfriars, f., r. 220*l.*, 4,500*l.*; 7 to 12, South Parade, Chelsea, f., r. 330*l.*, 5,100*l.*; i.g.r. of 2*l.* 10s., St. Peter's-sq., Hammersmith, u.t. 13 yrs., g.r. 10s., 12*l.*—By *V. Vaughan:* 46, Burton-cres., Euston-rd., u.t. 11¼ yrs., g.r. 31*l.* 10s., e.r. 85*l.*, 66*l.*; 69 and 70, Mornington-rd., Regent's-pk., u.t. 44 yrs., g.r. 20*l.*, r. 117*l.*, 950*l.*; 14, 16, and 18, St. Petersburg-pl., Bayswater, u.t. 13¾ yrs., g.r. 15*l.*, r. 208*l.*, 910*l.*—By *E. Millard:* The Hedon Racecourse, Hedon, Yorks., and Twyer's Farm, 240 a. 2 r. 5 p., f., r. 550*l.*, 11,500*l.*; enclosure of land, Greenford, Middlesex, 27 a. 1 r. 19 p., f., r. 60*l.*, 1,470*l.*; enclosure of meadow land, 23 a. 0 r. 23 p., f., r. 50*l.*, 1,050*l.*; eleven freehold cottages, r. 99*l.* 15s., 760*l.*—By *Warner & Co.*: 15, Douro-pl., Kensington, f., 2,710*l.*

JULY 2.—By *Debenham, Tewson, & Co.*: "Fairfax House," Westcombe Pk., Blackheath, and two acres, f., 3,500*l.*—By *A. Chancellor & Sons:* Mitchett Farm, Frimley, Surrey, 57 a. 1 r. 12 p., f., 1,500*l.*; an enclosure of meadow-land, 4 a. 1 r. 25 p., f., 330*l.*—By *F. C. Squire & Co.*: 52, Sydenham Pk., Sydenham, f., e.r. 50*l.*, 360*l.*—By *Weatherall & Green:* Nos. 145 and 147, Hampstead, rd. f., r. 200*l.*, 4,420*l.*; 24, Roberts-mews, f., r. 50*l.*, 1,010*l.*; 113, Highbury Hill, Highbury, u.t. 82 yrs., g.r. 8*l.*, r. 48*l.*, 420*l.*—By *Segrave, Browett, & Taylor:* 28 and 30, Amott-rd., Peckham, u.t. 73 yrs., g.r. 13*l.*, r. 52*l.*, 410*l.*; 12, 12a, 13, 13a, 14, and 15, Beaconsfield-ter., u.t. 63 yrs., g.r. 27*l.* 10s., 132*l.*—By *Protheroe & Morris:* A block of building land, High Stone, Leytonstone, f., 550*l.*; 3, Warrior-sq., Southend, f., r. 60*l.*, 760*l.*; "Pound Cottage," Milton-rd., f., r. 13*l.*, 350*l.*; 4, Beverley-rd., Barnes, u.t. 70 yrs., g.r. 5*l.* 11s., r. 48*l.*, 450*l.*—By *Messrs. Cobb* (at Rochester): Two plots of land, Cliff, near Rochester, 3 r. 28 p., f. 105*l.*; Mill Field, Mill Piece, and Fletshers Lane Field, 19 a. 3 r. 38 p., f. 610*l.*; enclosures of land, 28 a. 3 r. 10 p., f. 1,200*l.*—By *Messrs. Cobb* (at Rochester): An enclosure of land, "Macknade Shot," Faversham, Kent, 11 a. 3 r. 34 p., f. 1,100*l.*; Clap Gate Field, 4 a. 1 r. 8 p., f. 270*l.*—By *R. A. Enright:* 52, Shakespeare-rd., South Hornsey, f., e.r. 30*l.*, 330*l.*—By *D. L. Gooch:* F.g.r. of 31*l.* 10s., Rangoon-ter., Fulham, reversion in 84 yrs., 740*l.*; f.g.r. of 7*l.* 10s., Crown-t., Bexley Heath, reversion in 90 yrs., 160*l.*

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*School Buildings and Master's House	Ludlow Grammar Schs.	25*l.* and 10*l.*	Aug. 2
*Warming, Ventilating, and Hot Water Supply.....	Royal London Ophthalmic Hospital.....	.....	No date

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
Street Works, near Bristol	St. George U.D.C.....	T. L. Lewis	July 16
Farm Buildings, Brecks Nook, Wigginton-road, York.....	Feoffees of St. Martin's	W. G. Penty.....	do.
School, Cauldon-road	Hanley (Staffs.) Sch. Board	E. E. Scrivener	do.
Additions to Warehouse, Ormeau-road, Belfast.....	J. Thompson & Sons .	E. Braddell	do.
Two Houses, Ballater and Aboyne, N.B.	Aberdeen Town Coun.	W. Dyack	do.
*Tar Paving Works	Acton U.D.C.	D. J. Ebbetts	do.
Additions to Church, Burnt Yates, Durham	.....	C. H. Fowler	do.
Eight Houses, Sand Area Mills, Kendal ..	.....	Jno. Stalker.....	do.
Granite Road Metal.....	Bedford U.S.A.	*Official*	do.
Stables at Workhouse.....	Falmouth Union	do.	July 17
Cottage Hospital, Oban, N.B.	.....	G. W. Brenan	do.
Schools, Hudswell, near Richmond, Yorks	.....	Clark & Moscrop.....	do.
Stoneware Pipe Sewer, Window-lane.....	Garston U.D.C.	F. W. Bowden.....	July 18
Ice Factory, Union Quay, North Shields..	Tynemouth Corp.	J. F. Smillie	do.
Sewerage Works, Broughton, Burn	Edinburgh Town Coun.	*Official*	do.
*Broken Granite.....	Long Crendon R.D.C.	do.	do.
*Alterations at Vestry Offices.....	St. James's (Westminster) Vestry	do.	do.
*Underground Convenience	Hampstead Vestry ..	do.	do.
Workshops Extension, Hind-street	Birkenhead Corp.	do.	July 19
Schools, Hurley, near Atherstone	Kingsbury Sch. Bd. ..	Newton & Cheatle	do.
Schools, Bethesda, North Wales.....	Governing Body.....	Willink & Thicknesse	do.
Warehouse and Offices, George-street, Cardiff.....	Joseph Milner.....	Jones & Co.	July 20
Dispensary, &c. Coolgreany, Ireland	Gorey Union	*Official*	do.
Broken Granite (800 tons), Stanningley ..	Farsley U.D.C.	do.	July 22
*Relaying Carriageways	Limehouse Bd. of W.	do.	do.
Water Tower (Contract No. 3).....	Knottingley U.D.C. ..	J. Richardson	do.
Alterations, &c. to Schools, Belton, Great Yarmouth	.....	Bottle & Olley.....	do.
Vestry, Holy Trinity Church, Idle, Yorks	.....	Kendal & Bakes	do.
*Concrete Culverts, &c.	Tottenham U.D.C. ..	P. E. Murphy	July 23
*Road Works	do.	do.	do.
Public Baths, Clifden-road	Brentford D.C.	N. Parr	do.
Warehouse, Goods Offices, &c. Elland	L. & Y. Ry. Co.	*Official*	do.
Station Buildings, Poulton, Lancs	do.	do.	do.
Walls, &c. Sewage Disposal Works, Liveseey Fields	Bury (Lancs) Corp. ..	do.	July 24
Street Works, Oxton and Tranmere.....	Birkenhead Corp.	C. Brownridge.....	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Erection of Schools	Swanage School Board	*Official*	July 25
*New Synagogue, Cardiff.....	The Congregation	D. Joseph	do.
Pipe Sewers (10,300 yards), nr Manchester	Wilmslow U.D.C.	J. Bowden.....	July 26
*Extension of Colonnade, &c.....	Brighton Town Coun.	F. J. C. May.....	do.
*Erection of Residence.....	do.	do.	do.
Additions, &c. to Oddfellows' Hall, Halifax	.....	C. F. L. Horsfall & Sons	July 27
*Timber for Show Buildings	Bath and West and Southern Counties Soc. for Encouragement of Agriculture, Arts, &c.	*Official*	do.
*230 tons Broken Granite	Thame U.D.C..... .	do.	July 29
*Completion of Baths	Coms. for Public Baths, &c. Hackney	E. Harnor & F. Pinches	do.
Brick Outfall Sewer.....	Tunbridge Wells Corp.	T. E. W. Mellor	July 30
*Broken Granite.....	Epping R.D.C.	*Official*	July 31
Halls and Library, Kirkcaldy, N.B.....	.....	Dunn & Findlay.....	Aug. 1
*Erection of Schools	Weston-super-Mare School Board.....	Price & Wooler	Aug. 3
*New Cattle Market	Guildford Corp.	F. T. Maltby	Aug. 5
Schools, Fydell-crescent.....	Boston School Board..	J. Rowell	Aug. 6
*Drainage Works	Gillingham U.D.C. ..	Taylor Sons & Santo Crimp	Aug. 8
Alterations to Workhouse, Fusehill... ..	Carlisle Union.....	G. Armstrong	No date
Pair of Cottages, Hadleigh, Suffolk	Messrs. Wilson	J. S. Corder	do.
Bakery and Joiner's Shop, Nelson, Lancs.	Local Co-op. Society ..	S. Whitehead	do.
Sewer Work, Goat, near Cockermouth ..	Cockermouth R.D.C.	J. B. Wilson.....	do.
*Erecting Two Schools	Willesden School Bd.	*Official*	do.
*Public Hall, Woking	The Committee	Horner & Ridler.....	do.
Semi-detached Villas, Ben Rhydding, Wales	. .....	S. Robinson	do.
House, Bradford, Yorks.....	.....	H. & E. Marten	do.
Nine Houses, East Parade, Bradford, Yorks	.....	Jas. Young & Co.	do.
Fourteen Houses and Two Shops, Goldthorpe-lane Ends, Doncaster	.....	C. W. Dickinson	do.
Mission Church and Schools, Holmfield, Halifax	.....	H. W. Booth	do.
Cottage and Farm Buildings, Little Bampton, Carlisle	W. Hodgson.....	.....	do.
Three Houses, Holmside, Chester-le-street	Mr. Barber	.....	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Clerk of Works	Enfield School Board	3*l.* 3*s.*	July 17
*Land Surveyor	Eccles Corp.....	2.....	July 22
*Surveyor Clerk	London County Council	.....	No date

Those marked with an asterisk (*) are advertised in this Number. ***Competitions,*** *p.* iv. ***Contracts,*** ***pp.*** iv., vi., viii., *and* xx. ***Public Appointments,*** *pp.* xviii. *and* xx.

JULY 3.—By *W. Holcombe & Betts:* 2 and 3, Neal's-yd., Seven Dials, u.t. 31 yrs., g.r. 40*l.*, 200*l.*—By *H. Donaldson & Son:* 9, Ormond-yd., Bloomsbury, f., 660*l.*; 207, Junction-rd., Holloway, u.t. 61 yrs., g.r. 5*l.*, e.r. 70*l.*, 485*l.*—By *Jones, Lang, & Co.:* 347, Harrow-rd., Paddington, u.t. 50 yrs., g.r. 10*l.*, 550*l.*—By *Maple & Co.:* 1 to 6, Old Barrack-yd., Knightsbridge, u.t. 33¾ yrs., g.r. 20*l.*, 3,300*l.*; freehold nursery ground, Gordon House-rd., Kentish Town, and 3 r. 13 p., r. 120*l.*, 2,900*l.*—By *Messrs. Mellersh:* 2 freehold cottages, Worplesdon, Surrey, and 13 a. 0 r. 37 p., 800*l.*; 2 plots of land, Ash and Normandy, 12 a. 1 r. 20 p., f., 745*l.*—By *R. Tidey & Son:* 3, St. James'-rd., Victoria Pk., u.t. 34¾ yrs., g.r. 4*l.* 10*s.*, 305*l.*; 3 and 4, Sherborne-st., Islington, u.t. 27¾ yrs., g.r. 10*l.*, r. 64*l.*, 365*l.*; 6, Oxford-ter., u.t. 461 yrs., g.r. 8*l.*, r. 46*l.*, 455*l.*; 115 and 117, Tottenham-rd., Kingsland, u.t. 29½ yrs., g.r. 7*l.* 6*s.* 8*d.*, r. 70*l.*, 460*l.*; 25, Green-st., Chelsea, u.t. 66¾ yrs., g.r. 6*l.*, r. 36*l.*, 300*l.*; 43, Ives-st., u.t. 66¾ yrs., g.r. 6*l.*, r. 39*l.*, 205*l.*; 23 and 21, Green-st., and 22 to 30 (even), Ives-st., u.t. 56 yrs., g.r. 25*l.*, r. 95*l.*, 700*l.*; 33, 35, and 39, Wedmore Gardens, Holloway, u.t. 84½ yrs., g.r. 18*l.*, r. 86*l.*, 690*l.*—By *Baxter, Payne, & Lepper:* 2 enclosures of meadow land, Westerham Hill, Kent, 10 a. 3 r. 5 p., f., 760*l.*; 6 freehold cottages, South-st., &c., r. 50*l.* 14*s.*, 980*l.*; South-st. Farm, 25 a. 3 r. 27 p., f., 1,100*l.*; Crooked Chimney Cottage, and 1 and 2, Pimlico Cottages, f., 520*l.*; enclosure of land, High-rd., 2 a. 1 r. 19 p., f., 200*l.*; "Aperfield Court," 122 a. 0 r. 3 p., f., 2,800*l.*; 1 and 2, Aperfield Cottages; "Mill House" and "Mill House Cottage," f., r. 43*l.*, 795*l.*; enclosures of land, 155 a. 1 r. 1 p., f., 2,625*l.*; Bottom Barn Farm, 225 a. 0 r. 31 p., 1,540*l.*

JULY 4.—By *Fraser & Heigh:* 183, Brecknock-rd., Holloway, u.t. 71½ yrs., g.r. 7*l.* 10*s.*, r. 45*l.*, 430*l.*—By *J. H. Hibbard:* Plot of land, Green-lanes, Palmer's Green, 2 a., 0 r., 20 p., f., 800*l.*; "Oscar Villa," Albert-rd. South, Buckhurst Hill, and "Albert Villa," f., r. 42*l.*, 620*l.*—By *J. Thompson, Watson, & Co.:* 1, 2, 3, and 6, Borough-rd., Southwark, and 8, St. George's-circus, u.t. 15½ yrs., g.r. 1380*l.*, 510*l.*—By *Weston & Sons:* 91, Vassall-rd., Brixton, u.t. 6 yrs., g.r. 9*l.*, r. 50*l.*, 52*l.*; 52, Thornton-st., u.t. 29 yrs., g.r. 3*l.*, r. 28*l.*, 220*l.*—By *Farebrother, Ellis, Clark, & Co.:* 24, Wardour-st., Soho, f., r. 110*l.*, 2,460*l.*; the Manor House, Durrington, near Worthing, and six cottages, 145 a. 2 r. 2 p., f., 7,000*l.*; enclosure of land, Worthing-rd., 12 a. 1 r. 32 p., f., 1,200*l.*; two freehold cottages, Durrington, 200*l.*—By *C. C. & T. Moore:* 93, Mortimer-st., Regent-st., u.t. 13 yrs., g.r. 70*l.*, r. 250*l.*, 1,490*l.*; 43, Ridley-st., Dalston, u.t. 11½ yrs., g.r. 4*l.*, r. 256*l.*, 1,900*l.*; f.g.r. of 199*l.*, Amie's-rd., Battersea, reversion in 64¾ yrs., 5,010*l.*; f.g.r. of 51*l.*, Latchmere-rd., reversion in 64¾ yrs., 1,300*l.*; f.g.r. of 175*l.*, Mile End-rd., Mile End., reversion in 77½ yrs., 4,640*l.*; f.g.r. of 20*l.*, South Grove, reversion in 77½ yrs., 600*l.*; 37 and 39, Eastfield-st., Limehouse, and 99, Elsa-st., f., 44*l.*; f.g.r. of 105*l.*, Prince Regent's-lane, Plaistow, reversion in 73 yrs., 1,680*l.*—By *Newbon & Co.:* 56 and 70, Richmond-rd., Barnsbury, u.t. 41 yrs., g.r. 14*l.*, r. 102*l.* 10*s.*, 855*l.*; 26, 27, and 28, Gibson-sq., u.t. 32 yrs., g.r. 27*l.*, r. 150*l.* 10*s.*, 835*l.*; 3 and 4, Stonefield-st., u.t. 10 yrs., g.r. 11*l.* 10*s.*, r. 92*l.* 10*s.*, 240*l.*; 30, All Saints'-st., King's Cross, u.t. 49¼ yrs., g.r. 6*l.*, r. 36*l.*, 265*l.*; 1, Railway-st., u.t. 49¼ yrs., g r. 5*l.*, r. 39*l.*, 220*l.*; 6, Carlton-rd., Stroud Green, u.t. 81 yrs., g.r. 7*l.* 10*s.*, e.r. 45*l.*, 430*l.*; 34, Highbury-pl., Highbury, f., e.r. 100*l.*, 1,160*l.*; 10, Haringay-grove, Hornsey, u.t. 51 yrs., g.r. 4*l.*, r. 25*l.*, 170*l.*; f.g.r. of 15*l.*, Campbell-rd., Southend, reversion in 95½ yrs., 350*l.*—By *R. Reid:* 26, Devonshire-ter., Hyde Pk., u.t. 43¾ yrs., g.r. 4*l.*, r. 110*l.*, 1,200*l.*; 33, 35, and 37, Craven-rd., and 18 and 19, Brook Mews, North, u.t. 42½ yrs., g.r. 67*l.*, r. 620*l.*, 6,500*l.*; 20, Brook Mews, North, u.t. 42½ yrs., g.r. 7*l.*, r. 60*l.*, 510*l.*; 39, 43, and 45, Craven-rd., u.t. 42 yrs., g.r. 30*l.* 19*s.*, r. 515*l.*, 6,610*l.*; 1, 3, 4, and 6, Spring-st., Paddington, u.t. 42 yrs., g.r. 8*l.*, r. 525*l.*, 6,750*l.*—By *Walton & Lee:* "Newland's Farm," near Redditch, 224 acres, f., sold privately.—By *Stimson & Sons:* 3, Market Parade, Bowes'-pk., u.t. 92 yrs., g.r. 8*l.*, r. 44*l.*, 445*l.*; i.g.r. of 50*l.*, Caledonian-rd., Barnsbury, u.t. 33 yrs., g.r. 25*l.*, 500*l.*; i.g.r. of 17*l.*, Offord-rd., u.t. 33 yrs., g.r. 12*l.*, 80*l.*; i.g.r. of 18*l.*, Wivenhoe-rd., Peckham, u.t. 69 yrs., g.r. 6*l.*, 210*l.*; 33 and 35, Wivenhoe-rd., u.t. 69 yrs., g.r. 8*l.* 8*s.*, 350*l.*; 47 to 53 odd, St. George's-rd., u.t. 42 yrs., g.r. 21*l.*, 800*l.*; 6, Wellington-st., Woolwich, u.t. 3 yrs., g.r. 3*l.* 15*s.*, 35*l.*; 19, Musgrave-rd., u.t. 3 yrs., g.r. 1*l.* 15*s.*, r. 28*l.*, 20*l.*; 42 and 43, Frederick-pl., Plumstead, u.t. 21 yrs., g.r. 4*l.* 2*s.* 6*d.*, r. 66*l.* 6*s.*, 305*l.*; 7, Eton-st., Woolwich, u.t. 22 yrs., g.r. 2*l.*, r. 16*l.* 18*s.*, 70*l.*

JULY 5.—By *Messrs. Cobb:* Two enclosures of land, Broadmead, Folkestone, 12 a. 0 r. 25 p., f., 4,400*l.*—By *Broad & Wiltshire:* 71, Great Ormond-st., Bloomsbury, f., r. 66*l.*, 1,350*l.*; 30 and 31, Devonshire-st., f., r. 150*l.*, 2,500*l.*; 107 and 109, Cornwall-rd., Westbourne Pk., u.t. 69½ yrs., g.r. 20*l.*, r. 140*l.*, 1,570*l.*; 37, Alexander-st., u.t. 53¾ yrs., g.r. 10*l.*, r. 100*l.*, 1,320*l.*; 9 and 10, Alexander Mews, u.t. 53¾ yrs., g.r. 8*l.*, r. 37*l.*, 350*l.*—By *G. A. Wilkinson & Son:* F.g.r. of 21*l.* 5*s.*, Alderville-rd., Fulham, reversion in 87 yrs., 500*l.*; f.g.r. of 51*l.* 9*s.*, Stowe-rd., Shepherd's Bush, reversion in 82 yrs., 1,225*l.*; f.g.r. of 14*l.* 14*s.*, Thornfield-rd., reversion in 82 yrs., 335*l.*; f.g.r. of 30*l.*, Coningham-rd., reversion in 84 yrs., 765*l.*; f.g.r. of 19*l.*, Park-rd., East Acton, reversion in 85 yrs., 400*l.*: 12, Burlington Gdns., u.t. 81 yrs., g.r. 9*l.*, r. 32*l.*, 220*l.*; 23, Wheatstone-rd., Kensington, u.t. 80 yrs., g.r. 7*l.* 10*s.*, r. 28*l.*, 180*l.*; No. 78, Regent-st., u.t. 22½ yrs., g.r. 59*l.* 17*s.*, r. 403*l.* 10*s.*, 4,400*l.*; No. 500, Oxford-st., u.t. 35 yrs., g.r. 8*l.*, r. 250*l.*, 4,180*l.*; 3, Croom's Hill, Greenwich, f., r. 30*l.*, 360*l.*—By *Protheroe & Morris:* 2 to 16 (even), Geere-rd., West Ham, u.t. 84½ yrs., g.r. 40*l.*, r. 208*l.*, 905*l.*; 23, 27, and 29, Khedive-rd., f., r. 8*l.* 10*s.*, 940*l.*; 20, Khedive-rd., u.t. 87 yrs., g.r. 5*l.* 12*s.* 6*d.*, 175*l.*; 63, 69, 71, and 73, Cedars-rd., Stratford, u.t. 81 yrs., g.r. 16*l.*, 600*l.*; 75 and 77, Cedars-rd., u.t. 82½ yrs., g.r. 8*l.*, 300*l.*; 50, 52, 54, and 56, Vicarage-rd., u.t. 83¾ yrs., g.r. 22*l.*, 650*l.*; 404 to 412 (even), Cable-st., Shadwell, u.t. 10 yrs., g.r. 20*l.* 5*s.*, r. 152*l.*, 300*l.*; 18 to 26 (even), Johnson-st., u.t. 9½ yrs., g.r. 18*l.* 15*s.*, r. 116*l.* 10*s.*, 300*l.*—By *Robert Reid:* 18, Cambridge-sq., Hyde Pk., u.t. 40½ yrs., g.r. 26*l.*, r. 230*l.*, 1,500*l.*; 17, Sale-st., Paddington, u.t. 33¾ yrs., g.r. 7*l.* 4*s.*, r. 58*l.*, 500*l.*; 7, 8, and 9, Cambridge-pl., u.t. 37¾ yrs., g.r. 18*l.*, r. 180*l.*, 1,900*l.*; "The Aberdeen Arms" beerhouse, Lyons-pl., Maida Hill, and 149 and 151, Carlisle-st., u.t. 27¾ yrs., g.r. 16*s.* 10*s.*, r. 59*l.* 10*s.*, 290*l.*—By *Baker & Sons:* F.g.r. of 27*l.* 8*s.* 8*d.*, Bushey Pk.-ter., Teddington, reversion in 70 yrs., 660*l.*; an enclosure of land, Waldegrave-rd., f., 500*l.*; "Miller's Dale," Parkhurst-rd., Bexley, f., r. 65*l.*, 750*l.*; four plots of building land, Hampstead Heath, 5 a. 3 r. 32 p., f., 11,899*l.*; two plots of building land, 1 a. 2 r. 10 p., f., 3,125*l.*

[*Contractions used in these Lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.]

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G. ton	8/0/s	0/0/0
Teak, E.I. ..load	10/0/0	26/0/0
Sequoia, U.S. ft. cu	1/10	2/2
Ash, Canada load	2/15/0	4/0/0
Birch, do.	2/5/0	3/10/0
Elm, do.....	3/10/0	4/15/0
Fir, Dantsic, &c.	1/15/0	3/10/0
Oak, do.....	2/15/0	4/15/0
Canada	6/0/0	7/10/0
Pine, Canada red	0/0/0	0/0/0
Do. Yellow	2/15/0	5/0/0
Lath, Dantsic, fath	4/10/0	5/10/0
St. Petersburg..	5/0/0	6/10/0
Wainscot, Riga, &c., log	3/0/0	5/5/0
Odessa, crown....	3/0/0	5/5/0
Deals, Finland 2nd & 1st std 100	7/0/0	8/10/0
Do. 4th & 3rd ..	7/0/0	8/0/0
Do. Riga	7/0/0	8/0/0
St. Petersburg, 1st yellow ...	9/10/0	12/0/0
Do. 2nd yellow	7/10/0	9/0/0
Do. white	8/0/0	9/10/0
Swedish.....	7/0/0	15/10/0
White Sea.....	7/10/0	15/0/0
Canada, Pine 1st	22/0/0	24/0/0
Do. do. 2nd....	16/10/0	17/10/0
Do. do. 3rd, &c.	8/5/0	10/10/0
Do. Spruce, 1st..	9/0/0	10/10/0
Do. do. 3rd and 2nd	6/10/0	7/10/0
New Brunswick	6/0/0	7/0/0
Battens, all kinds	5/0/0	21/0/0
Flooring boards, sq., 1 in. prep. 1st.....	0/9/6	0/14/6
Do. 2nd	0/6/6	0/11/6
Other qualities—	0/4/6	0/7/6
Cedar, Cuba ..ft.	/3	/4
Honduras, &c.	/3	/4½
Mahogany, Cuba	/3½	/6
St. Domingo, cargo av.	/3½	s/o
Mexican do. do.	/3	/4
Tobasco do. do.	/3½	/6
Honduras do...	/3½	/5½
Box, Turkey ton	4/0/0	15/0/0
Rose, Rio	7/0/0	16/0/0
Bahia	6/0/0	15/0/0
Satin, St. Domingo	0/0/5	0/1/0

TIMBER (*continued*).		
Satin, Porto Rico	0/0/6	0/1/6
Walnut, Italian....	0/0/3½	0/0/7
METALS.		
Iron—Pig, in Scotland .....ton	2'4/6	0/0/0
Bar, Welsh, in London	5/12/6	5/15/0
Do. do. at works in Wales.....	5/2/6	5/5/0
Do. Staffordshire, in London.....	6/0/0	6/10/0
COPPER—British cake and ingot	45/10/0	46/c/0
Best selected ..	46/10/0	47/0/0
Sheets, strong..	52/0/0	0/0/0
Chili bars	43/1/3	43/0/3
YELLOWM'TALib	0/0/4½	0/0/4¾
LEAD—Pig, Spanish ....ton	10/10/0	0/0/0
English com. brands	10/10/0	10/12/6
Sheet, English, 6 lbs. per sq. ft. and upwards ..	11/10/0	0/0/0
Pipe	12/0/0	0/0/0
ZINC—English sheet .....ton	18/10/0	0/0/0
Vieille Montagne	19/10/0	0/0/0
TIN—Straits.....	63/17/6	64/7/6
Australian.....	64/12/6	65/2/6
English Ingots.	66/10/0	67/0/0
Banca	64/0/0	64/10/0
Billiton	63/10/0	64/0/0
OILS.		
Linseed .....ton	21/5/0	21/10/0
Cocoanut, Cochin	24/0/0	24/10/0
Do. Ceylon	22/10/0	0/0/0
Palm, Lagos	22/10/0	0/0/0
Rapeseed, English pale	22'5/0	22/10/0
Do. brown	20/15/0	21/0/0
Cottonseed ref. .	17/10/0	18/0/0
Oleine.....	20/10/0	21/0/0
Lubricating, U.S.	5/9/0	8/3/0
Do. black	4/6/0	6/6/0
TAR—Stockholm barrel	1/0/0	1/0/6
Archangel.....	0/15/6	0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.*]

ALNWICK.—Accepted for alterations and additions to Jubilee House, Alnwick, for Mrs. Smart. Mr. George Reavell, Jun., architect :—

Masonry.—John Armstrong, Lesbury	£58 0 0
Joinery.—W. Forster & Son, Alnwick	73 0 0
Slating.—Jos. Purdie, Alnwick	7 15 7
Plumbing.—J. N. Reavell, Alnwick	38 16 0
Plastering.—Geo. Pickard, Alnwick	25 7 6
Painting.—A. Robertson, Alnwick	6 14 0
	£209 13 1

ALNWICK.—Accepted for the erection of house at East Acres, Alnwick, for Mr. David Elliot. Mr. George Reavell, jun., architect :—

Masonry.—Scott & Thompson	£358 2
Joinery.—Charles Nettleship	
Slating.—Joseph Purdie	
Plumbing.—Wilkin & Dickman	
Plastering.—Robert Davison	
Painting.—George W. Jackson	

[All of Alnwick.]

BARNSLEY.—For additions, &c., to Wesleyan Methodist Chapel, Market-street, Hoyland. Mr. John Wilson, architect, 169, King-street, Hoyland, near Barnsley :—

Masonry.—Mark A. Hague, Hoyland Common, near Barnsley*	£110
Carpentry and Joinery.—J. H. Whitehead	195
" " —Hadyn Brearley, Hoyland Common, near Barnsley*	153
" " Duncan & Jones	200
Slating.—C. Kemp, Swinton, near Rotherham* (per schedule of prices)	
Plastering.—J. M. Partlain, Platts Common, near Barnsley* (per schedule of prices)	
Plumbing, Glazing, and Painting.—W. H. Kawlin, Hoyland, near Barnsley*	114
" " —C. Firth & Son	136
J. H. Whitehead†	385

* Accepted.
† Masonry, carpentry, joinery, and slating.

BIRMINGHAM.—For removing present sanitary arrangements at the Moseley Hall Convalescent Home, and building new bath-room and water-closets, constructing new sanitary arrangements as per plans and specification prepared by and under the superintendence of Professor Corfield, M.A. :—

J. Andrews	£1,795 0	Matthew Brodie, 2, Willow-st., London (accepted)	£1,474 0
J. Barnsley & Sons	1,588 0		
W. Sapcote & Sons	1,525 10		

BISHOP'S STORTFORD.—For the construction of waterworks (four contracts), for the Urban District Council. Mr. R. S. Scott, C.E., North-street, Bishop's Stortford. Quantities by Mr. John H. Blizard, A.M.Inst.C.E., 9, Victoria-street, Westminster, S.W. :—

Contract No. 1.—Reservoir, Cooling-pond, &c.

Glasscock & Son	£2,598 0 0	R. Cook & Co., Phœnix Wharf, Church-road, Battersea, S.W.*	£2,380 0 0
S. Hipwell	2,509 0 0		
J. H. Vickers	2,498 12 7		
A. T. Catley	2,488 0 0		
S. Parmenter	2,439 0 0		

Contract No. 2.—Well

W. S. Freeman	£1,000 0 0	R. D. Batchelor	£697 11 9
S. Hipwell	875 0 0	G. Ingold	658 13 0
R. Cook & Co.	850 0 0	W. Brown & Sons, Tottenham*	625 16 0
J. H. Vickers	796 0 0		
Tilley & Son	717 5 0		

Contract No. 3.—Alterations and Additions to Engine-house.

T. Fuller	£191 5 0	H. Champness	£175 0 0
S. Hipwell	185 0 0	J. H. Vickers, Nottingham*	172 16 0
Glasscock & Son	184 0 0		

Contract No. 4.—Alterations to one Engine.

W. S. Freeman	£155 8 6	J. Lampitt & Co., Banbury*	£62 18 6
A. Robinson	105 0 0		
J. Northrop	65 0 0		

* Accepted.

BOURNE (Lincs.).—For additions, &c., to house, Hacconby, for Mr. Brown. Mr. F. G. Silcock, architect, West-street, Bourne :—

A. T. Blood	£673 0	Gelsthorpe & Sons	£450 0
Hy. Chappell*	480 0	Wright & Wall	406 19

[All of Bourne.]
* Accepted subject to revision.

CAMBORNE (Cornwall).—For the erection of school buildings, College-row. Mr. S. Hill, architect, Symon's-terrace, Redruth :—

Jas. Julian	£2,684 0	Moyle & Mitchell, Chacewater and Leedstown*	£2,044 0
John Colliver	2,475 0		
R. Nettle	2,440 0		
Mills & Turner	2,415 0	E. Mills & Son†	926 0
Trounson & Turner	2,312 3	C. Hodge†	905 0
A. Carkeck	2,266 0		

* Accepted. † Carpentry only.

CARDIFF.—For the supply of wood blocks (1,035,000), for the Corporation. Mr. W. Harpur, C.E., Borough Engineer, Town Hall, Cardiff :—

	per 1,000.	
John Bland & Co.	£11 7 6	for Jarrah-wood.
" "	7 0 0	" English Elm.
James Allan, Cardiff*	11 5 0	" Jarrahdale Jarrah.
P. W. Moran	12 2 3	" Tallow-wood.
	per load in London.	
H. Nance	£5 5 0	for Tasmanian Springy Bark (in planks).
	per 1,000.	
James Kennedy & Co.	£11 17 6	for Blackbutt, Tallow-wood, Red Mahogany, Brush-Box, Blue Gum.
Alexanders & Co.	6 0 0	" Red Deal.
"	11 6 3	" Red Australian Hardwood.
R. Y. Ardagh	12 5 0	" English Oak (prismatic).
Palfreman, Foster, & Co.	11 10 0	" Jarrahdale Jarrah.
Dewey, Mott, & Co.	11 7 6	" Blocks for paving purposes, in accordance with Schedule attached.
Western Joinery Co.	10 12 6	" Kauri (soft wood).
Temperley & Co.	12 0 0	" Jarrah Timber.
"	11 10 0	" If cut from planks as imported.
Burt, Boulton & Co.	11 8 0	" Australian Hardwood Blocks.

* Accepted.

CLACTON (Essex).—For paving, &c., Wellesley-road, and three others, for the Urban District Council. Mr. A. R. Robinson, surveyor, Town Hall-buildings, Clacton-on-Sea :—

	Wellesley.	Jackson.	Edith.	Coach.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
H. J. Linzell	2,883 0 0	930 0 0	560 0 0	292 0 0
B. W. Glenny	2,677 11 0	936 10 0	540 5 0	294 17 0
Geo. Wimpey & Co.	2,672 6 2	927 19 0	531 8 1	349 17 8
Thos. Adams	2,643 16 2	938 6 6	531 7 0	311 18 9
J. C. Allen	—	1,230 0 0	680 0 0	275 2 6
D. Mackenzie, Clacton*	2,339 13 6	824 13 3	475 10 0	267 4 6
G. Rackham†	2,115 0 0	647 10 0	394 12 8	293 10 0

* Accepted. † Withdrawn.

CLACTON-ON-SEA.—For the supply of road materials, for the Urban District Council. Mr. A. R. Robinson, Surveyor, Town Hall, Clacton :—

Flints.	Per cubic yard. s. d.
Eastwood & Co.	5 0
Thames Sand Dredging Co.	5 3
Hector Stone	4 10
Tuff & Miskin	4 7
Smeed, Dean, & Co., Limited, Sittingbourne*	4 5

Granite or Quartzite.	Per ton. s. d.		Per ton. s. d.
Wm. Griffiths	15 2	A. & F. Manuelle	13 5
Hector Stone	13 9	Buxton Lime Firms Co., Limited	13 2
Kaltenbach & Schmitz	13 7	Chas. M. Manuelle*	12 6
C. J. Sowton & Co.	13 6		
L. Sommerfield	13 6		

* Accepted.

CORWEN (Wales).—For additions to the Union Workhouse, for the Union Guardians. Messrs. J. Williams & Son, architects, Dee-View, Corwen :—

D. R. Jones	£959 8	Wm. Davies	£780 0
John Owen, Cerrig-y-Druidion (accepted)	798 0	John Williams	750 0

CROYDON.—For alterations to Nos. 53 and 55, Brighton-road. Mr. A. Broad, architect, 3, High-street, Croydon. Quantities by the architect :—

E. J. Saunders	£645	A. Bullock	£549
D. W. Barker	630	W. Smith & Son	519
Hanscomb & Smith	559	E. P. Bulled & Co.*	494

* Accepted.

DEWSBURY.—Accepted for alterations, &c., to the Club and Institute. Messrs. Holtom & Fox, architects, Westgate, Dewsbury. Quantities by the architects :—

Masonry and Bricklaying.—Ellis Brooke, South Parade, Dewsbury	£83 14 0
Carpentry and Joinery.—Lyles & Smith, Dewsbury	41 10 0
Plumbing and Glazing.—F. Newsome, Northgate, Dewsbury	88 15 0
Plastering.—A. E. Broadbent, Vulcan-road, Dewsbury	14 9 10
Total	£228 8 10

DYMCHURCH (Kent).—For the construction of three groynes, at the sea-wall level of Romney. Mr. Edward Case, engineer :—

H. Stiff	£1,132	Winser & Cheal	£1,056
Thos. Pedrette	1,175	A. E. Nunn, Tenterden*	1,175

* Accepted.

HALIFAX.—Accepted for alterations and additions at Clapton Lodge, Halifax. Mr. Arthur G. Dalzell, architect and surveyor, Albany Chambers, Halifax :—

Masonry.—Adam Foster, Halifax	£153 5 0
Joinery.—Joseph Hanson, Halifax	126 13 11
Plumbing and Heating.—John Holdsworth, Halifax	128 0 0
Slating and Ironfounding.—J. Bancroft & Son, Halifax	56 9 1
Ironfounding.—John Berry, Halifax	33 0 0
Parquet Flooring.—Mainzer & Co., Ltd., London	76 10 0

HASTINGS.—For the execution of sewerage works, St. Helen's-road, for the Corporation. Mr. P. H. Palmer, C.E., Town Hall, Hastings :—

C. Gutsell, Silverhill, St. Leonards-on-Sea	£160

LLANDILO (Wales).—For the erection of (Intermediate) school buildings. Mr. David Jenkins, architect, Llandilo :—

J. Williams	£2,940 0	E. G. Groom	£2,350 0
D. Davies	2,638 0	T. Pugh Jones	2,150 0
A. Meredith	2,550 0	J. Davies	1,963 0
Thos. Watkins & Co.	2,511 0	L. Morgan	1,950 0
D. Thomas	2,399 18	D. H. Jones	1,945 0
D. Rees	2,383 0	David Evans, Llandilo*	1,840 0

* Accepted conditionally.

LLANELLY (Wales).—For the erection of a school-room and vestry, for Caersalem Baptist Chapel, Llanelly. Mr. T. Arnold, C.E., architect, Llanelly :—

Davies Bros.	£515 0 0	Wm. Hopkins & Son ‡	£385 0 0
Wm. Clement*	495 13 0	David Roblin†	227 10 6
Brown, Thomas, & John	493 0 0		

[All of Llanelly.]
* Accepted. † Carpentry and Joinery.
‡ Masonry and Plastering only.

LONDON.—Accepted for painting the exterior of the Workhouse, Arthur-street, Chelsea, for the Guardians of St. Luke, Chelsea. Messrs. Lansdell & Harrison, architects, 12, Compton-terrace, Highbury :—

Wm. Norton, Chelsea	£448

[Eight tenders received.]

LONDON.—For painting and cleaning works to the infirmary, Cale-street, Chelsea, for the Guardians of St. Luke, Chelsea. Messrs. Lansdell & Harrison, architects, 12, Compton-terrace, Highbury :—

W. Norton	£638 0	Geo. Wade	£375 10
W. H. Lorden & Son	444 0	Wm. Eades, Chelsea*	320 0

* Accepted.

LONDON.—For gasfittings at the "New Inn," Westminster Bridge-road, S.E. :—

Strode & Co.	£181 0	Buckley & Beach	£137 8
Biggs	174 0	W. Winn (accepted)	112 0

LONDON.—For building new business premises at 173 and 175, High-street, Camden Town, for Mr. Flatau. Mr. Lewis Solomon, architect. Quantities by Messrs. Gritten & Son :—

Reason	£2,760 0 0	Scott	£2,575 0 0
Holloway	2,631 0 0	Patman	2,560 0 0
Downs	2,617 0 0	Roberts	2,535 5 6
Coulsel	2,593 0 0	Anley	2,486 0 0
Gould & Brand	2,582 0 0		

LONDON.—For building new warehouse for Mr. Granger at Pentonville-road. Mr. H. H. Tasker, architect. Quantities by the architect :—

Dove Bros.	£495 0	Hunt	£455 17
Stevens	486 0	Dearing & Sons	431 0
Hayes	457 17	Reason (accepted)	422 0

LONDON.—For alterations, &c., to the "Limes," High-street, Mortlake, for the Urban District Council. Mr. G. Bruce Tomes, Surveyor, Beverley-road, Barnes :—

J. W. Brooking	£1,086 0
J. G. M. Wilcox	1,070 5
J. E. Broderick	975 0
Barber & Bellamy	834 0
W. H. Lorden & Sons	825 0
Alfred Hunt	785 0
John Bloomer, High-street, Brentford (provisionally accepted)	676 0

[Surveyor's estimate, £700.]

LONDON.—For pointing and repairs to the City-road Workhouse, for the Holborn Board of Guardians. Mr. Evan Vaughan, architect. Quantities by Mr. E. J. Sadgrove :—

H. Wall & Co.	£2,992 0	Reason (accepted)	£2,921 9
Dearing & Sons	2,975 0		

LONDON.—For the supply of 3,000 tons Guernsey granite spalls, for the Kensington Parish Guardians :—
A. & F. Manuelle, Leadenhall-street, E.C., at 10s. per ton.

LONDON.—For redrainage and sanitary fittings at the Road Boys' School. Mr. Thomas Dinwiddy, architect :—

J. H. Haire	£245
Jones & Groves	235
G. F. Fry	215
E. Mills	197
W. Mills	195

LONDON.—For the erection of fencing in Hilly Fields, Brockley, for the London County Council :—

Hill & Smith	£1,133 7 6	T. W. Palmer & Co.	£985 0 0
L. Faulkner & Sons	1,031 11 0	M. McVey	927 19 9
Johnson, Bros., & Co., Limited	998 0 0		

If fencing between points H and I on plan be omitted :—

Hill & Smith	£1,109 18 10	T. W. Palmer & Co.	£969 0 0
L. Faulkner & Sons	1,009 9 0	M. McVey	913 19 2
Johnson, Bros., & Co., Limited	983 0 0		

LONDON.—For pewterers' work at the "White Conduit," Barnsbury-road, Islington, N., for Mr. Lacely. Mr. R. Dickinson, architect, 5, John-street, Adelphi, W.C. :—

Buckley & Beach	£131 9
Kendel	125 0
Sanders & Son	113 15

For Gasfitters' work at the above.

Evans, Barnsbury-road, N.	£102 10

LONDON.—Accepted for the erection of the superstructure on the buildings on plot A of the Boundary-street area, for the London County Council :—

Holloway Bros.	£9,180

LONDON.—For painting and varnishing Wandsworth Bridge, for the London County Council :—

J. J. Lewen	£886 13 0	M. McCarthy	£591 4 10
Vigor & Co.	868 4 4	E. Proctor	427 0 0

LONDON.—Accepted for the supply and delivery of 23,000 tons of lime at the Barking and Crossness outfall works, for the London County Council :—

H. Wallace & Co., 9,000 tons for Crossness at 12s. per ton.
William Fletcher, 12,000 tons for Barking at 12s. 5d. per ton.

LONDON.—Accepted for the erection of a fire-station at Fulham, for the London County Council :—

Holloway Bros.	£11,570

LONDON.—For pulling down old and erecting new workshop, Fremont-street, Hackney, for the Misses Sheffield. Mr. T. Selby, architect :—

Bradford	£945	Kiddle & Son	£747
Goodall	782		

LONDON.—For making alterations to the "Town Hall Tavern," High-street, Kensington, for Mr. Samuel Raven.—Mr. R. Dickinson, architect, 5, John-street, Adelphi, W.C. :—

Scharien & Co.	£1,693	Beer & Gash	£1,260
Kearley & Co.	1,378	Norton	1,240
Dearing & Son	1,362	Edwards & Medway	1,219
Turtle & Appleton	1,260		

MACCLESFIELD.—For additions to school buildings, Langley, for the Sutton School Board. Mr. John Clayton, architect, Sunderland-street, Macclesfield :—

J. Bradburn & Sons	£356	E. & A. Frith, Catherine-street, Macclesfield*	£255
G. Roylance & Co., Ltd.	320		
Gorton & Wilson	287		

* Accepted.

MELKSHAM.—For the erection of four semi-detached villa residences, for the Melksham Dwellings Co., Lim., from plans and specifications supplied by Mr. E. Gunstone, surveyor :—

Davis & Sons	£1,125 0	Bigwood & Co.*	£1,063 13
Linzey	1,083 0		

* Accepted.

NEW SHOREHAM (Sussex).—For additions to school buildings, for the School Board. Messrs. Loader & Long, architects, 54, Old Steine, Brighton. Quantities by the architects :—

Saunders & Son	£1,754 0	Field & Co.	£1,515 0
Rooke	1,750 0	Watson	1,500 0
Taylor	1,690 0	Peters & Son	1,475 0
Jackson & Co.	1,638 0	Gillham	1,469 10
Cooke & Son	1,575 0	Curd, Shoreham *	1,372 0

* Accepted.

PAIGNTON (Devon).—For the erection of a Wesleyan chapel, Palace-avenue. Messrs. W. G. Couldrey and J. S. Bridgman, joint architects, Paignton. Quantities by Mr. V. C. Brown, Paignton :—

Webber & Maunder	£2,270 15 0	M. Bridgman	£2,011 14 6
H. Webber & Sons	2,229 10 0	E. P. Bovey	1,995 0 0
C. & R. P. Drew	2,183 0 0	L. Blatchford, Upton, Torquay *	1,991 12 0
H. P. Rabbich	2,126 0 0	J. H. Lamacroft	1,893 10 0
R. F. Yeo	2,014 0 0		

* Accepted.

PAIGNTON.—For erecting boundary wall and gate piers at the Public Park, for the Paignton Urban District Council. Mr. J. Stansfield-Bruce, C.E., Town Surveyor. Quantities by Mr. Vincent Cattermole Brown, of Paignton :—

G. Webber	£195 0 0	M. Bridgman*	£178 19 4
R. Harris	184 10 0		

* Accepted.

[Surveyor's estimate, £184.]

PICKERING (Yorks.).—For the execution of water-supply works, Levisham, for the Rural District Council. Mr. Geo. Harrison, Engineer, 39, North-road, Darlington. Quantities by Engineer :—

Brown & Sons, Whitby £359 10

RICHMOND (Surrey).—For the erection of court-house, &c., for the Corporation. Mr. W. J. Ancell, architect, 3, Staple-inn, W.C. Quantities by Mr. T. J. Carless, 39, Old Queen-street, Westminster :—

Kirk & Randall	£2,765	Thos. White	£2,404
Kellett	2,647	J. W. Brooking	2,397
C. Godson & Sons	2,580	B. E. Nightingale	2,377
Geo. Wade	2,552		

RICHMOND.—For repairs and alterations to No. 7, Coverdale. Mr E. Pennington, surveyor, Richmond :—

Lillywhite ..... £102 | Seal & Co. (accepted) £98

SALISBURY.—For pulling down and rebuilding the business premises known as New Sarum House, Market-place, Salisbury, for Messrs. Main & Co. Mr. Fred Bath, architect, Crown Chambers, Salisbury. Quantities by the architect :—

	Whole of work.	Deductions.	Amended Tender.
Belham & Co.	£6,978 3 7	£1,464 15 3	£5,513 8 4
Webb & Co.	6,156 13 0	902 19 3	5,253 13 9
Kellow & Smith	5,950 0 0	481 10 0	5,468 10 0
G. H. Wilkins	5,840 0 0	662 0 0	5,178 0 0
Vincent & Folland	5,550 0 0	483 12 0	5,066 8 0
Jenkins & Sons, Bournemouth *	5,526 0 0	1,128 0 0	4,398 0 0

* Accepted subject to a slight modification.

SHANKLIN (I. of W.).—For the supply of 1,418 yards c.-i. water-pipes, for the Urban District Council. Mr. Lewis Colenutt, Engineer, Shanklin :—

	Per ton for pipes. £ s. d.	Per cwt. for fittings. s. d.
Cochrane & Co.	5 10 0	9 3
Clay Cross Co.	5 7 6	9 0
Stanton Iron Works	5 7 6	8 6
J. Oakes & Co.	5 5 0	10 0
Winstone & Co.	5 5 0	9 3
Thames Bank Iron Co.	5 3 9	9 3
J. Gibb & Co.	5 0 0	8 6
F. Cantelo	4 19 6	9 0
H. W. Daws & Co.	4 18 6	9 6
Monier-Williams & Co.	4 18 6	9 0
C. Jordan (Executors)	4 18 4	8 6
R. W. Brett	4 18 0	9 2
J. Ritchie	4 17 6	8 6
A. Appleby	4 17 0	9 0
Watson, Gow, & Co.	4 15 0	9 0
R. Laidlaw & Co.	4 14 6	9 0
Birtley Iron Works	4 14 0	8 6
Shaw & M'Jones	4 14 0	8 6
H. J. Skelton & Co.	4 13 11	8 3
Macfarlane, Strang, & Co.	4 13 6	9 6
Maclaren & Co.	4 12 8	10 0
J. Abbot & Co., Gateshead *	4 7 6	8 0

* Accepted.

ST. ALBANS (Herts.).—For the execution of road-works, Lemsford-road, for the Corporation. Mr. George Ford, City Surveyor, Victoria-street, St. Albans :—

James Dickson ..... £460 | George Capper, St. Alban's* £430

* Accepted.

SHOEBURYNESS (Essex).—For the erection of three pairs of semi-detached cottages, for Miss Knapping. Messrs. Burls & Harris, architects, Clarence-street, Southend-on-Sea :—

W. Howard	£1,063 7 0	Alp & Ventrix, Shoeburyness*	£1,026 4 6
A. Woodewise	1,047 10 0		
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Etheridge & Clark, Moss Bank, Cheetham Hill, Manchester £1,671 18 4

TIPTON (Staffs.).—Accepted for additions to Burnt Tree school buildings, for the School Board. Mr. Alfred Long, architect, 319, High-street, West Bromwich :—

C. A. Horton, Brierley Hill £988

TWICKENHAM.—Accepted for repairs and alterations to No. 8, Manor-road. Mr. E. Pennington, surveyor, Richmond :—

Seal & Co., Richmond £108

WRITTLE (Essex).—Accepted for additions to school buildings, for the School Board. Mr. Frank Whitmore, architect, 17, Duke-street, Chelmsford :—

Henry Kennel, Writtle £367

[Two other tenders received.]

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G. F.—M. & F.—W. H. H.—B. B.—J. A. (amounts should have been stated).—H. W. W. (below our limit).—R. D. (too late : next week).

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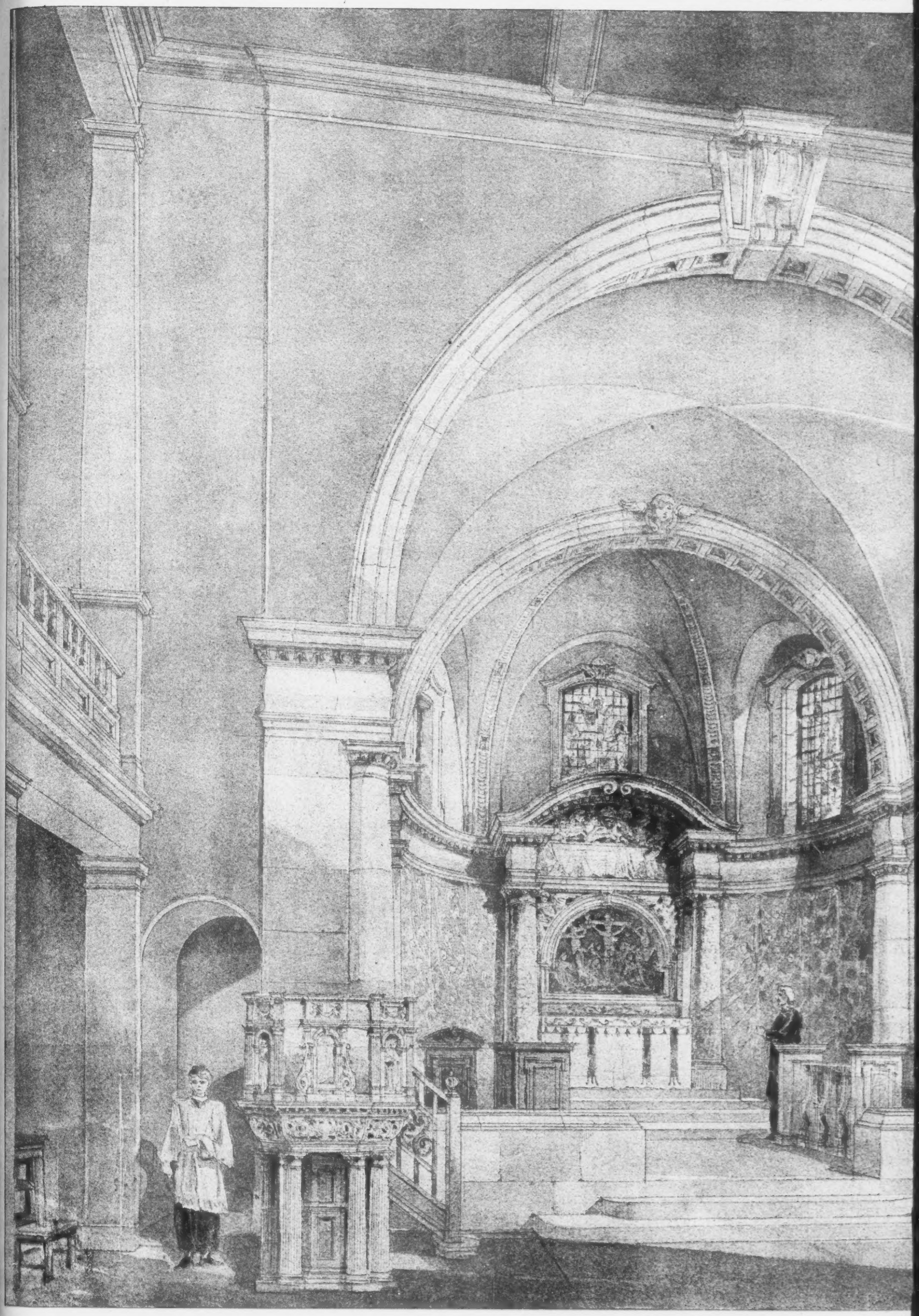

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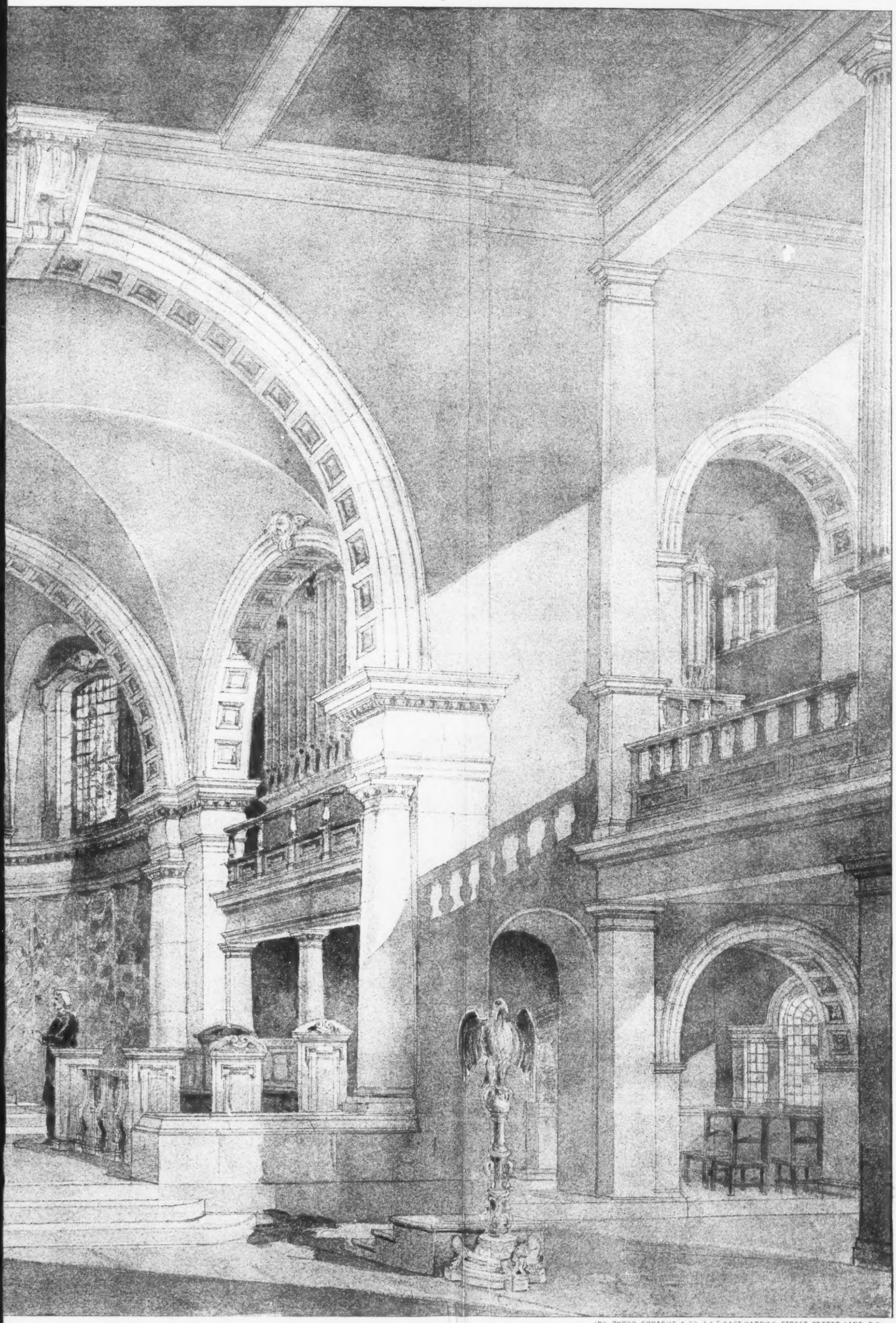

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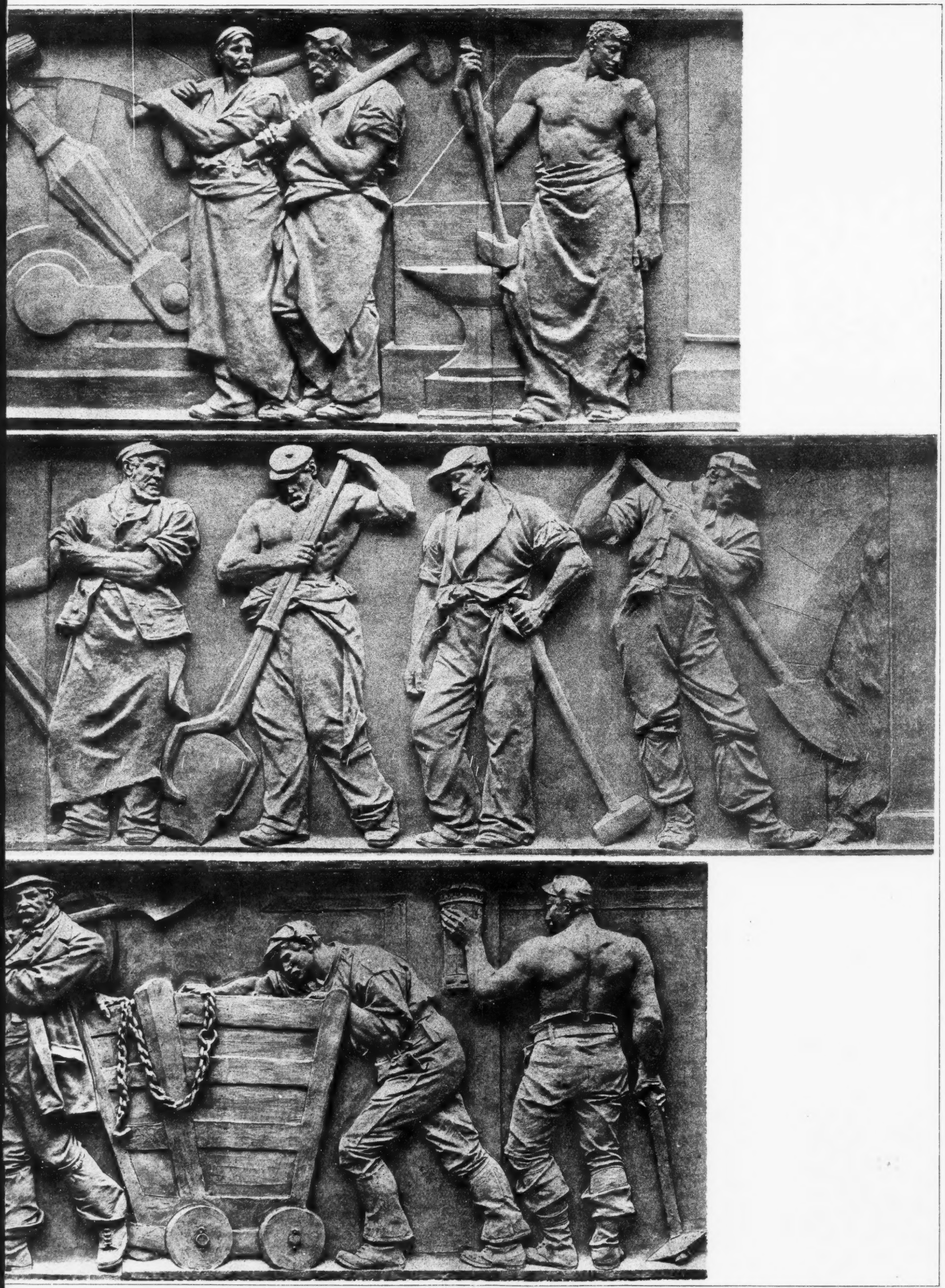

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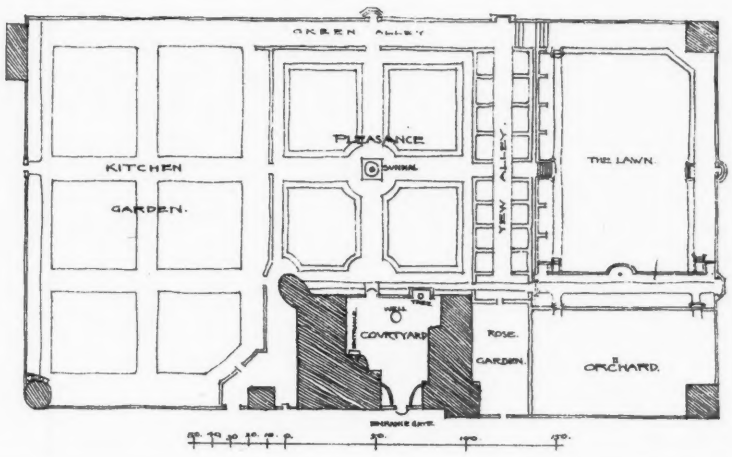

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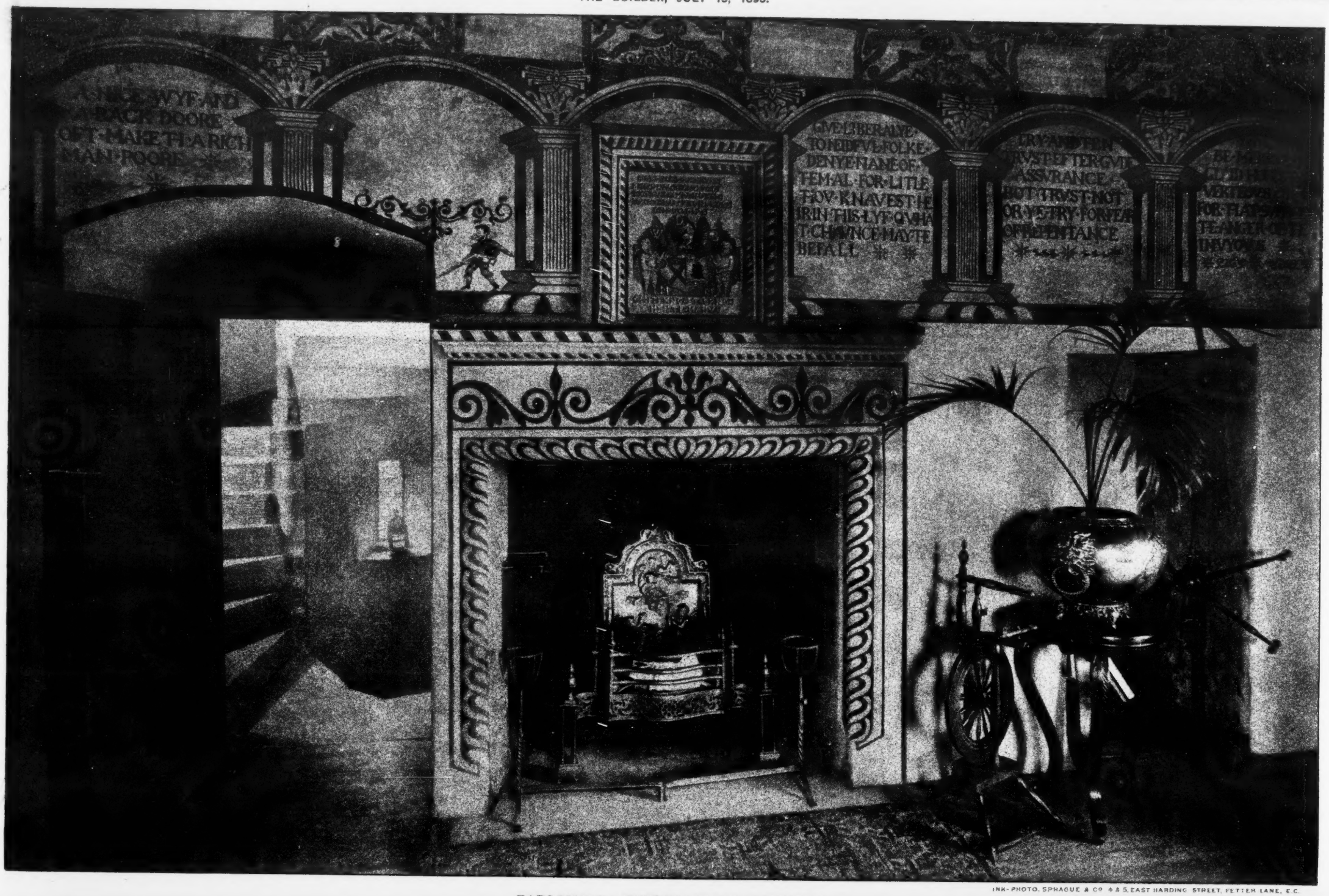

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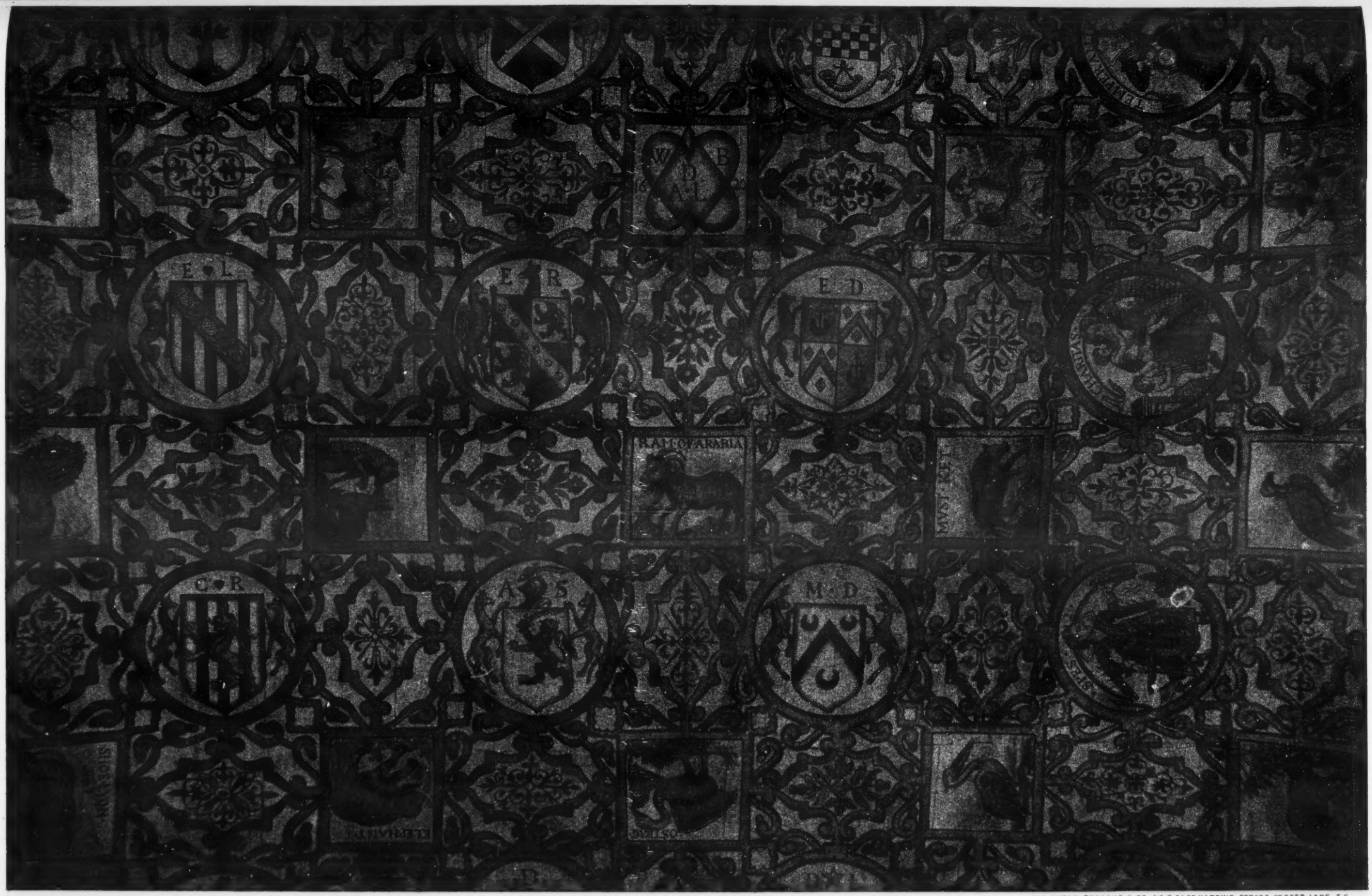

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